

10/743, 809, 9-5-05, RFA.

| Ref # | Hits | Search Query | DBs | Default Operator | Plurals | Time Stamp |
|-------|------|---|---|------------------|---------|------------------|
| L1 | 1 | "4374066".pn. | US-PGPUB; USPAT | OR | ON | 2005/09/05 18:44 |
| L2 | 439 | 568/28.ccls. | US-PGPUB; USPAT | OR | ON | 2005/09/05 18:44 |
| L3 | 34 | 568/28.ccls. and sulfonium | US-PGPUB; USPAT | OR | ON | 2005/09/05 18:56 |
| L4 | 14 | 568/28.ccls. and sulfonium and sulfonyl | US-PGPUB; USPAT | OR | ON | 2005/09/05 19:03 |
| L5 | 5 | 430/921.ccls. and (sulfonium with sulfonyl) | US-PGPUB; USPAT | OR | ON | 2005/09/05 19:06 |
| L6 | 87 | 430/270.1.ccls. and (sulfonium with sulfonyl) | US-PGPUB; USPAT | OR | ON | 2005/09/05 19:07 |
| L7 | 436 | sulfonium with sulfonyl | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/09/05 19:08 |
| L8 | 113 | sulfonium with sulfonyl and (photoacid or acid adj generator) | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/09/05 19:08 |

10/743,809, 9-5-05, L.8A

CA Reg. file struc. search FG

(FILE 'HOME' ENTERED AT 20:30:06 ON 05 SEP 2005)

$\rightarrow \text{SO}_2-\text{CF}_2$ — open d 3

$\rightarrow \text{SO}_2-\text{C}$ d 1

$\rightarrow \text{SO}_2-\text{Nb}$ d 8

$\rightarrow \text{SO}_2-\text{C}$ d 7

cls 3,7,8

only hits for my application.

FILE 'REGISTRY' ENTERED AT 20:30:11 ON 05 SEP 2005

STRUCTURE uploaded

STRUCTURE uploaded

STRUCTURE uploaded

STRUCTURE uploaded

4 S L1 FULL

6 S L2 FULL

2 S L3 FULL

0 S L4 FULL

FILE 'CAPLUS' ENTERED AT 20:31:55 ON 05 SEP 2005
S L4

FILE 'REGISTRY' ENTERED AT 20:32:02 ON 05 SEP 2005
L9 0 S L4

FILE 'CAPLUS' ENTERED AT 20:32:03 ON 05 SEP 2005

L10 0 S L9

L11 1 S L5

=> s 16

L12 1 L6

=> d bib

L12 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2005:219970 CAPLUS
DN 142:306448
TI Onium salt compound and radiation-sensitive resin composition
IN Yoneda, Eiji; Wang, Yong; Nishimura, Yukio
PA Japan
SO U.S. Pat. Appl. Publ., 85 pp.
CODEN: USXXCO

DT Patent

LA English

FAN.CNT 2

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|-------------------|------|----------|-----------------|----------|
| PI | US 2005053861 | A1 | 20050310 | US 2003-743809 | 20031224 |
| | JP 2004250427 | A2 | 20040909 | JP 2003-182089 | 20030626 |
| | JP 2005104956 | A2 | 20050421 | JP 2003-423516 | 20031219 |
| PRAI | JP 2002-373531 | A | 20021225 | | |
| | JP 2002-373625 | A | 20021225 | | |
| | JP 2003-182089 | A | 20030626 | | |
| | JP 2003-315010 | A | 20030908 | | |
| OS | MARPAT 142:306448 | | | | |

=> s 17

L13 1 L7

=> d bib

L13 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2005:219970 CAPLUS
DN 142:306448
TI Onium salt compound and radiation-sensitive resin composition
IN Yoneda, Eiji; Wang, Yong; Nishimura, Yukio
PA Japan
SO U.S. Pat. Appl. Publ., 85 pp.
CODEN: USXXCO

10/743, 809, 9-5-05, CA REG. FILE , PEA.
STRUCTURE search.

(FILE 'HOME' ENTERED AT 17:22:23 ON 05 SEP 2005)

FILE 'REGISTRY' ENTERED AT 17:22:35 ON 05 SEP 2005

L1 STRUCTURE uploaded
L2 STRUCTURE uploaded
L3 STRUCTURE uploaded
L4 STRUCTURE uploaded
L5 STRUCTURE uploaded
L6 0 S L1 FULL
L7 0 S L2 FULL
L8 7 S L3 FULL
L9 17 S L4 FULL
L10 2 S L5 FULL

FILE 'CAPLUS' ENTERED AT 17:30:44 ON 05 SEP 2005

L11 2 S L8
L12 9 S L9
L13 1 S L10

=>

l1 = Form 1
l2 " 2
l3 " 4
l4 " 5
l5 " 6

From SP&C.

L11 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2005 ACS on STN

AN 2005:219970 CAPLUS

DN 142:306448

TI Onium salt compound and radiation-sensitive resin composition

IN Yoneda, Eiji; Wang, Yong; Nishimura, Yukio

PA Japan

SO U.S. Pat. Appl. Publ., 85 pp.

CODEN: USXXCO

DT Patent

LA English

FAN CNT 2

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|----------------|------|----------|-----------------|----------|
| PI | US 2005053861 | A1 | 20050310 | US 2003-743809 | 20031224 |
| | JP 2004250427 | A2 | 20040909 | JP 2003-182089 | 20030626 |
| | JP 2005104956 | A2 | 20050421 | JP 2003-423516 | 20031219 |
| PRAI | JP 2002-373531 | A | 20021225 | | |
| | JP 2002-373625 | A | 20021225 | | |
| | JP 2003-182089 | A | 20030626 | | |
| | JP 2003-315010 | A | 20030908 | | |

OS MARPAT 142:306448

AB An onium salt compound having a cation moiety of formula I (A = I, S; m = 1 or 2; n = 0 or 1; x = 1-10; and Ar1, Ar2 = aromatic hydrocarbon group; and P = -O-SO₂R, -O-S(O)R, -SO₂R; R = H, (substituted) alkyl group, or a (substituted) alicyclic hydrocarbon group) is disclosed. The onium salt compound is suitable as a photoacid generator for photoresists of a pos.-tone radiation-sensitive resin composition. The pos.-tone radiation-sensitive resin composition containing this compound is useful as a chemical-amplified photoresist exhibiting high resolution at high sensitivity, responsive to various radiations, and having outstanding storage stability.

IT 753454-43-2P 847799-97-7P

RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(onium salt compound as photoacid generator for radiation-sensitive resin composition)

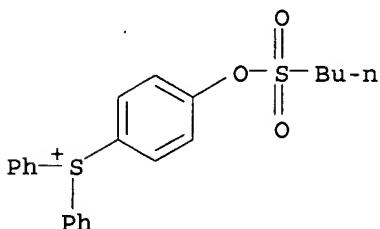
RN 753454-43-2 CAPLUS

CN Sulfonium, [4-[(butylsulfonyl)oxy]phenyl]diphenyl-, salt with 1,1,2,2,3,3,4,4,4-nonafluoro-1-butanesulfonic acid (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 753454-42-1

CMF C22 H23 O3 S2



CM 2

CRN 45187-15-3

CMF C4 F9 O3 S

$-\text{O}_3\text{S}-(\text{CF}_2)_3-\text{CF}_3$

RN 847799-97-7 CAPLUS

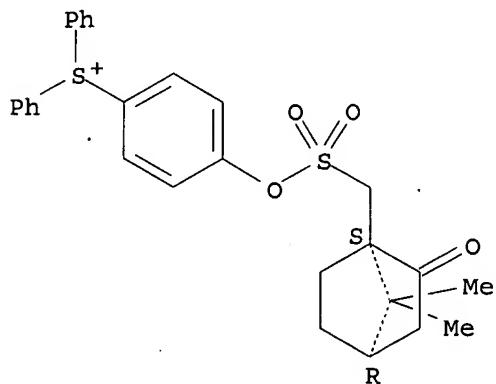
CN Sulfonium, [4-[[[(1S,4R)-7,7-dimethyl-2-oxobicyclo[2.2.1]hept-1-yl]methyl]sulfonyl]oxy]phenyl]diphenyl-, salt with 1,1,2,2,3,3,4,4,4-nonafluoro-1-butanesulfonic acid (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 847799-96-6

CMF C28 H29 O4 S2

Absolute stereochemistry.



CM 2

CRN 45187-15-3

CMF C4 F9 O3 S

$-\text{O}_3\text{S}-(\text{CF}_2)_3-\text{CF}_3$

L11 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2005 ACS on STN

AN 2004:741785 CAPLUS

DN 141:268555

TI Onium salts for radiation-sensitive acid generator for positive photoresist compositions

IN Yoneda, Eiji; Nishimura, Yukio; Wang, Yong

PA JSR Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 48 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 2

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|-------------------|------|----------|-----------------|----------|
| PI | JP 2004250427 | A2 | 20040909 | JP 2003-182089 | 20030626 |
| | US 2005053861 | A1 | 20050310 | US 2003-743809 | 20031224 |
| PRAI | JP 2002-373625 | A | 20021225 | | |
| | JP 2002-373531 | A | 20021225 | | |
| | JP 2003-182089 | A | 20030626 | | |
| | JP 2003-315010 | A | 20030908 | | |
| OS | MARPAT 141:268555 | | | | |

Myapple

AB The onium salt has cationic portion represented with $(Ar_2)^n A^- (Ar_1)^m (OZ)^x$ (A = I, S; m = 1, 2 ; n = 0, 1; (m+n) = 2; x = integer 1-10; Ar₁₋₂ = mono-valent C₆-20 aromatic hydrocarbon, mono-valent C₃-20 heterocyclic ring, 3-8 membered ring residue with Ar₁, Ar₂, and A; Z = -SO₂R₁, -S(O)R₂; R₁₋₂ = H, C₁-20 alkyl, mono-valent C₃-20 alicyclic, etc.). The onium salt provides photoresist composition of high sensitivity and good storageability.

IT 753454-43-2P 753454-47-6P 753454-49-8P

RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(onium salts for radiation-sensitive acid generator for pos. photoresist compns.)

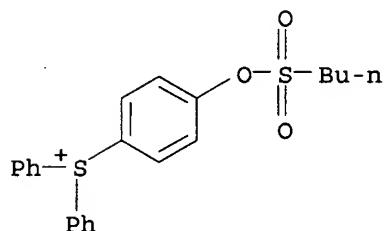
RN 753454-43-2 CAPLUS

CN Sulfonium, [4-[(butylsulfonyl)oxy]phenyl]diphenyl-, salt with 1,1,2,2,3,3,4,4,4-nonafluoro-1-butan sulfonic acid (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 753454-42-1

CMF C₂₂ H₂₃ O₃ S₂



CM 2

CRN 45187-15-3

CMF C₄ F₉ O₃ S

-O₃S-(CF₂)₃-CF₃

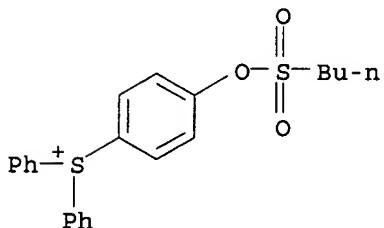
RN 753454-47-6 CAPLUS

CN Sulfonium, [4-[(butylsulfonyl)oxy]phenyl]diphenyl-, salt with $\alpha, \alpha, \beta, \beta$ -tetrafluorobicyclo[2.2.1]heptane-2-ethanesulfonic acid (1:1) (9CI) (CA INDEX NAME)

CM 1

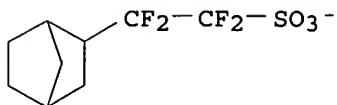
CRN 753454-42-1

CMF C₂₂ H₂₃ O₃ S₂



CM 2

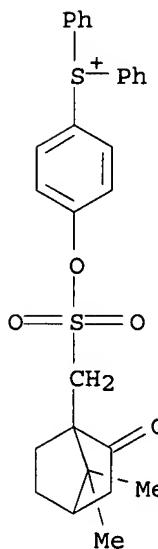
CRN 474516-37-5
CMF C9 H11 F4 O3 S



RN 753454-49-8 CAPLUS
CN Sulfonium, [4-[[[(7,7-dimethyl-2-oxobicyclo[2.2.1]hept-1-yl)methyl]sulfonyl]oxy]phenyl]diphenyl-, salt with 1,1,2,2,3,3,4,4,4-nonafluoro-1-butan sulfonic acid (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 753454-48-7
CMF C28 H29 O4 S2



CM 2

CRN 45187-15-3
CMF C4 F9 O3 S

-O₃S-(CF₂)₃-CF₃

=>

L12 ANSWER 1 OF 9 CAPLUS COPYRIGHT 2005 ACS on STN

AN 2005:219970 CAPLUS

DN 142:306448

TI Onium salt compound and radiation-sensitive resin composition

IN Yoneda, Eiji; Wang, Yong; Nishimura, Yukio

PA Japan

SO U.S. Pat. Appl. Publ., 85 pp.

CODEN: USXXCO

DT Patent

LA English

FAN.CNT 2

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|----------------|------|----------|-----------------|----------|
| PI | US 2005053861 | A1 | 20050310 | US 2003-743809 | 20031224 |
| | JP 2004250427 | A2 | 20040909 | JP 2003-182089 | 20030626 |
| | JP 2005104956 | A2 | 20050421 | JP 2003-423516 | 20031219 |
| PRAI | JP 2002-373531 | A | 20021225 | | |
| | JP 2002-373625 | A | 20021225 | | |
| | JP 2003-182089 | A | 20030626 | | |
| | JP 2003-315010 | A | 20030908 | | |

M>J Appl

OS MARPAT 142:306448

AB An onium salt compound having a cation moiety of formula I (A = I, S; m = 1 or 2; n = 0 or 1; x = 1-10; and Ar1, Ar2 = aromatic hydrocarbon group; and P = -O-SO₂R, -O-S(O)R, -SO₂R; R = H, (substituted) alkyl group, or a (substituted) alicyclic hydrocarbon group) is disclosed. The onium salt compound is suitable as a photoacid generator for photoresists of a pos.-tone radiation-sensitive resin composition. The pos.-tone radiation-sensitive resin composition containing this compound is useful as a chemical-amplified photoresist exhibiting high resolution at high sensitivity, responsive to various radiations, and having outstanding storage stability.

IT 847800-01-5P 847800-05-9P

RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(onium salt compound as photoacid generator for radiation-sensitive resin composition)

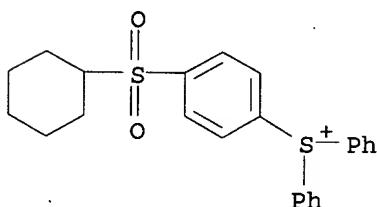
RN 847800-01-5 CAPLUS

CN Sulfonium, [4-(cyclohexylsulfonyl)phenyl]diphenyl-, salt with 1,1,2,2,3,3,4,4,4-nonafluoro-1-butanesulfonic acid (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 847800-00-4

CMF C24 H25 O2 S2



CM 2

CRN 45187-15-3

CMF C4 F9 O3 S

$-\text{O}_3\text{S}- (\text{CF}_2)_3-\text{CF}_3$

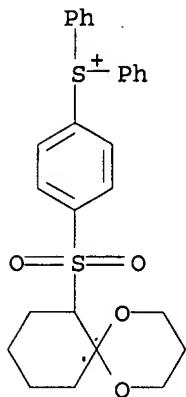
RN 847800-05-9 CAPLUS

CN Sulfonium, [4-(1,5-dioxaspiro[5.5]undec-7-ylsulfonyl)phenyl]diphenyl-, salt with 1,1,2,2,3,3,4,4,4-nonafluoro-1-butanesulfonic acid (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 847800-04-8

CMF C27 H29 O4 S2



CM 2

CRN 45187-15-3

CMF C4 F9 O3 S

$-\text{O}_3\text{S}- (\text{CF}_2)_3-\text{CF}_3$

IT 847799-76-2P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation of onium salt compound as photoacid generator for radiation-sensitive resin composition)

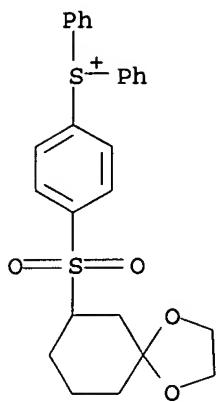
RN 847799-76-2 CAPLUS

CN Sulfonium, [4-(1,4-dioxaspiro[4.5]dec-7-ylsulfonyl)phenyl]diphenyl-, salt with 1,1,2,2,3,3,4,4,4-nonafluoro-1-butanesulfonic acid (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 847799-75-1

CMF C26 H27 O4 S2



CM 2

CRN 45187-15-3
CMF C4 F9 O3 S

-O₃S-(CF₂)₃-CF₃

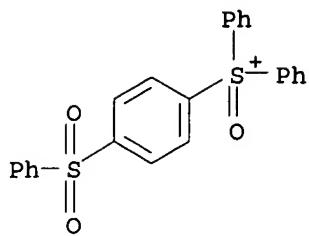
L12 ANSWER 2 OF 9 CAPLUS COPYRIGHT 2005 ACS on STN
 AN 1997:599494 CAPLUS
 DN 127:191198
 TI Photoinitiators and photoinitiator compositions and photocurable hybrid resin compositions
 IN Toba, Yasumasa; Tanaka, Yasuhiro; Yasuike, Madoka
 PA Toyo Ink Mfg. Co., Ltd., Japan
 SO Jpn. Kokai Tokkyo Koho, 31 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 FAN.CNT 1

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|--|--|----------|-----------------|----------|
| PI JP 09183961 | A2 | 19970715 | JP 1995-342494 | 19951228 |
| PRAI JP 1995-342494 | | 19951228 | | |
| OS MARPAT 127:191198 | | | | |
| AB | The photoinitiator compns., having a high curing rate, contain sulfoxonium borates R1R2R3S+(O)·(BXmZn) - (R1-R3 = C ₆ -20 aryl which may be substituted by halo, OH, NO ₂ , CN, NH ₂ , alkyl, alkoxy, aralkyloxy, aryl, aryloxy, aralkyl group; X = F, Cl; Z = Ph group substituted by ≥2 F, CN, NO ₂ , CF ₃ ; m = 0-3; n = 1-4; m + n = 4). Thus, a composition containing 100 parts an epoxy resin (ERL 4221) and 3 parts triphenylsulfoxonium tetrakis(pentafluorophenyl)borate was irradiated by UV to give a cured film. | | | |
| IT 194293-67-9 194293-75-9 | RL: CAT (Catalyst use); USES (Uses) (sulfoxonium borate photoinitiators and photocurable hybrid resin compns.) | | | |
| RN 194293-67-9 CAPLUS | | | | |
| CN Sulfoxonium, diphenyl[4-(phenylsulfonyl)phenyl]-, tetrakis(pentafluorophenyl)borate(1-) (9CI) (CA INDEX NAME) | | | | |

CM 1

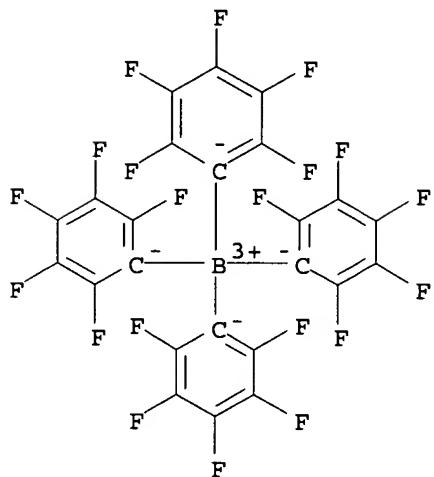
CRN 139572-76-2

CMF C24 H19 O3 S2



CM 2

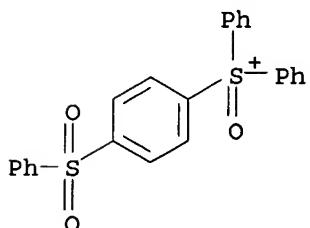
CRN 47855-94-7
CMF C24 B F20
CCI CCS



RN 194293-75-9 CAPLUS
CN Sulfoxonium, diphenyl[4-(phenylsulfonyl)phenyl]-, tetrakis[4-(trifluoromethyl)phenyl]borate(1-) (9CI) (CA INDEX NAME)

CM 1

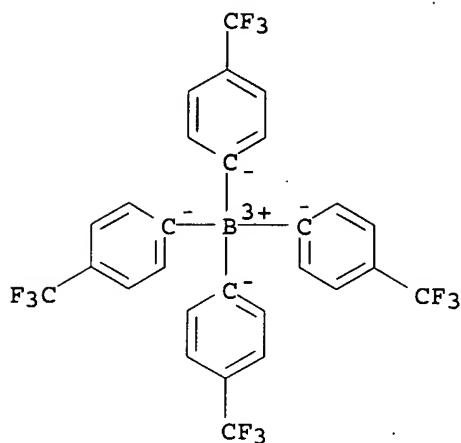
CRN 139572-76-2
CMF C24 H19 O3 S2



CM 2

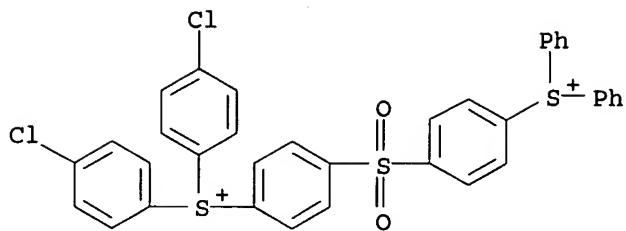
CRN 47823-82-5

CMF C28 H16 B F12
CCI CCS



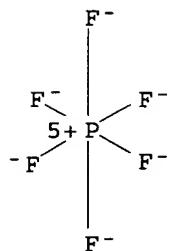
L12 ANSWER 3 OF 9 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1996:256323 CAPLUS
DN 124:318806
TI Photopolymerization initiators, radiation-curable compositions, and their cured products
IN Abe, Tetsuya; Yokoshima, Minoru
PA Nippon Kayaku Kk, Japan
SO Jpn. Kokai Tokkyo Koho, 13 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|---|------|----------|-----------------|----------|
| PI | JP 08041116 | A2 | 19960213 | JP 1994-193778 | 19940727 |
| | JP 3424772 | B2 | 20030707 | | |
| PRAI | JP 1994-193778 | | 19940727 | | |
| OS | MARPAT 124:318806 | | | | |
| AB | Sulfonium- and sulfoxonium-type photopolymn. initiators are synthesized and are used in radiation curable epoxy resins. Thus, compound I was oxidized with hydrogen peroxide to give compound II; II 1.5, Celloxide 2021 80, and EHPE 3150 20 parts were mixed and cured by UV to show transparency, storage stability, gloss, no odor, and tack free 23 mJ/cm ² . | | | | |
| IT | 176310-56-8P 176310-62-6P | | | | |
| RL | CAT (Catalyst use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses) | | | | |
| | (preparation of photopolymn. initiators and radiation-curable compns.) | | | | |
| RN | 176310-56-8 CAPLUS | | | | |
| CN | Sulfonium, bis(4-chlorophenyl)[4-[[4-(diphenylsulfonio)phenyl]sulfonyl]phenyl]-, bis[hexafluorophosphate(1-)] (9CI) (CA INDEX NAME) | | | | |
| CM | 1 | | | | |
| CRN | 176310-55-7 | | | | |
| CMF | C36 H26 Cl2 O2 S3 | | | | |



CM 2

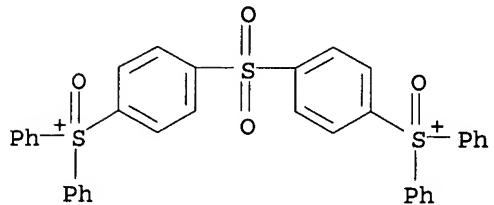
CRN 16919-18-9
CMF F6 P
CCI CCS



RN 176310-62-6 CAPLUS
CN Sulfoxonium, (sulfonyldi-4,1-phenylene)bis[diphenyl-, bis[hexafluorophosphate(1-)] (9CI) (CA INDEX NAME)

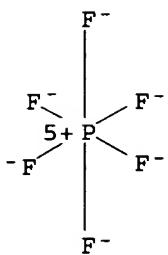
CM 1

CRN 176310-61-5
CMF C36 H28 O4 S3



CM 2

CRN 16919-18-9
CMF F6 P
CCI CCS



L12 ANSWER 4 OF 9 CAPLUS COPYRIGHT 2005 ACS on STN
 AN 1992:131247 CAPLUS
 DN 116:131247
 TI Preparation of triarylsulfoxonium salts and their use as initiators for cationic photopolymerization
 IN Irving, Edward; Taylor, David Alan; Lunn, Robert James; Innocenzi, John Paul; Haines, Alan Hugh
 PA CIBA Ltd., Switz.
 SO Brit. UK Pat. Appl., 24 pp.
 CODEN: BAXXDU
 DT Patent
 LA English
 FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|---------------|------|----------|-----------------|----------|
| PI | GB 2238787 | A1 | 19910612 | GB 1989-27530 | 19891206 |
| | GB 2238787 | B2 | 19930303 | | |
| | JP 03271270 | A2 | 19911203 | JP 1990-333442 | 19901129 |
| | DE 4038536 | A1 | 19910613 | DE 1990-4038536 | 19901203 |
| | CA 2031428 | AA | 19910607 | CA 1990-2031428 | 19901204 |
| | FR 2655338 | A1 | 19910607 | FR 1990-15147 | 19901204 |
| | FR 2655338 | B1 | 19921002 | | |
| | US 5576461 | A | 19961119 | US 1990-622905 | 19901206 |
| PRAI | GB 1989-27530 | A | 19891206 | | |

OS MARPAT 116:131247

AB R1R2R3S+O X- [I; R1, R2, R3 = (substituted) C6-10 aryl, X = anion], useful as initiators for cationic polymerization of compds. such as diepoxides in the manufacture of coatings, are prepared by oxidation of the corresponding sulfonium

salts using a peracid under basic conditions in a nonketone solvent. Use of the basic conditions and nonketone solvent improves the yield and eliminates contamination of the product with the starting material. Thus, a solution of 5.1 g NaOH and 6.7 g 30% aqueous H2O2 solution in 50 mL water was added dropwise to 300 mL MeOH containing 5.6 g (4-MeOC6H4)Ph2SPF6 and 6.1 g p-toluenesulfonyl chloride at 15° with stirring, and the mixture was allowed to warm to room temperature overnight to give 84% yield I (R1 = 4-MeOC6H4, R2 = R3 = Ph, X = PF6) (II). Irradiation of a mixture containing

100 parts bisphenol A diglycidyl ether and 3 parts II on tin plate with a 5000-W metal halide lamp 75 cm from the plate provided a tack-free coating in 2 mins.

IT 139572-77-3P

RL: PREP (Preparation)
(manufacture of, for cationic photopolymer. catalysts)

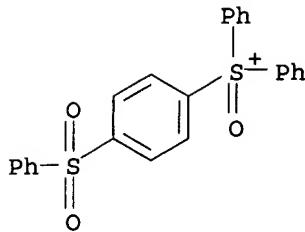
RN 139572-77-3 CAPLUS

CN Sulfoxonium, diphenyl[4-(phenylsulfonyl)phenyl]-, hexafluorophosphate(1-)
(9CI) (CA INDEX NAME)

CM 1

CRN 139572-76-2

CMF C24 H19 O3 S2

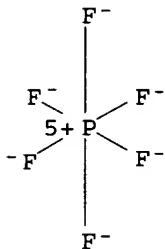


CM 2

CRN 16919-18-9

CMF F6 P

CCI CCS



L12 ANSWER 5 OF 9 CAPLUS COPYRIGHT 2005 ACS on STN

AN 1985:167245 CAPLUS

DN 102:167245

TI Recent advances in thermally and photochemically initiated cationic polymerization

AU Crivello, James V.; Lee, J. L.

CS Gen. Electr. Corp. Res. and Dev., Schenectady, NY, 12301, USA

SO Polymer Journal (Tokyo, Japan) (1985), 17(1), 73-83

CODEN: POLJB8; ISSN: 0032-3896

DT Journal

LA English

AB Classes of arylsulfonium salts are discussed which have enhanced efficiency as photoinitiators or thermal initiators of cationic polymerization. One of these compds., p-PhSC₆H₄SPh₂+AsF₆⁻ [75482-17-6], was identified as a component of the Friedel-Crafts reaction of C₆H₆ with S₂Cl₂. Similar compds., of formula ArSPh₂+AsF₆⁻ (e.g., Ar = p-PhOC₆H₄, m-PhSC₆H₄, and p-PhSO₂C₆H₄) and cyclic analogs (e.g., S-phenyldibenzothiophenium hexafluoroarsenate [82617-08-1]), were also prepared and characterized. Other classes (e.g., dialkylphenacylsulfonium salts, ArCOCH₂SR₂+X⁻) are also described; one class, characterized by 4-hydroxy-3,5-dimethoxyphenyldimethylsulfonium hexafluorophosphate [95896-72-3], is especially suited as thermal initiators. The activities of the initiators were tested in the cationic polymers of limonene dioxide, cyclohexene oxide, and styrene oxide.

IT 75482-29-0

RL: USES (Uses)

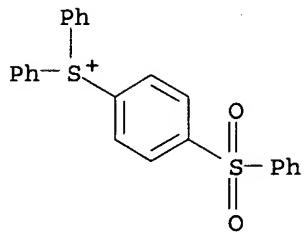
(photoinitiators, for cationic polymerization of epoxides)

RN 75482-29-0 CAPLUS

CN Sulfonium, diphenyl[4-(phenylsulfonyl)phenyl]-, hexafluoroarsenate(1-)(9CI) (CA INDEX NAME)

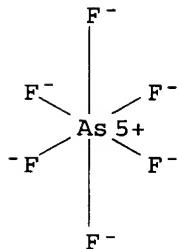
CM 1

CRN 47572-95-2
CMF C24 H19 O2 S2



CM 2

CRN 16973-45-8
CMF As F6
CCI CCS



L12 ANSWER 6 OF 9 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1983:180499 CAPLUS
DN 98:180499
TI Triarylsulfonium salts
IN Crivello, James V.; Lee, Julia L.
PA General Electric Co., USA
SO U.S., 8 pp. Cont.-in-part of U.S. Ser. No. 79,692, abandoned.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 2

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|---------------|------|----------|-----------------|----------|
| PI | US 4374066 | A | 19830215 | US 1980-200769 | 19801027 |
| | ZA 8005273 | A | 19811125 | ZA 1980-5273 | 19800826 |
| | GB 2061280 | A | 19810513 | GB 1980-29024 | 19800909 |
| | GB 2061280 | B2 | 19840516 | | |
| | CA 1120181 | A1 | 19820316 | CA 1980-361443 | 19800925 |
| | FR 2466457 | A1 | 19810410 | FR 1980-20689 | 19800926 |
| | FR 2466457 | B1 | 19850308 | | |
| | JP 56055420 | A2 | 19810516 | JP 1980-133103 | 19800926 |
| | JP 63036332 | B4 | 19880720 | | |
| | ES 495420 | A1 | 19811016 | ES 1980-495420 | 19800926 |
| | AU 8062780 | A1 | 19810409 | AU 1980-62780 | 19800929 |
| | AU 539699 | B2 | 19841011 | | |
| | BR 8006335 | A | 19810414 | BR 1980-6335 | 19800929 |
| PRAI | US 1979-79692 | A2 | 19790928 | | |

AB Triarylsulfonium salts such as I [75482-17-6] are prepared by a method based on the reaction of an aromatic hydrocarbon S2Cl2, and Cl in the

presence of a Friedel-Crafts catalyst. The triarylsulfonium salts are used as cationic photoinitiators to effect the deep-section cure of organic resin compns. Thus, a mixture of Ph₂S [139-66-2] 37.2, AlCl₃ 13.34, and Cl 9.5 parts was stirred and poured onto 500 parts ice. The semisolid was washed with H₂O. Then 27.8 parts AsF₆⁻ K⁺ and 500 parts H₂O were added to the residue and the mixture stirred at 30° for 1 h. The product was washed with H₂O then with anhydrous Et₂O and dried at 60° for 16 h. The product was then recrystd. from 95% EtOH to give 31% yield of I having m.p. 77-87°. Films from a 3% solution of I in 3,4-epoxycyclohexylmethyl 3',4'-epoxycyclohexane carboxylate [2386-87-0] were radiation-cured in 1 min to a maximum thickness of 50 mils, compared with 15 mils for a similar film containing Ph₃S⁺ AsF₆⁻.

IT 75482-29-0P

RL: PREP (Preparation)

(preparation of, as photoinitiators for deep cure of polymers)

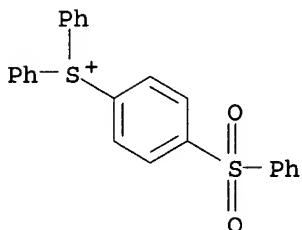
RN 75482-29-0 CAPLUS

CN Sulfonium, diphenyl[4-(phenylsulfonyl)phenyl]-, hexafluoroarsenate(1-)
(9CI) (CA INDEX NAME)

CM 1

CRN 47572-95-2

CMF C24 H19 O2 S2

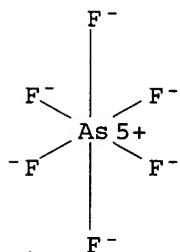


CM 2

CRN 16973-45-8

CMF As F6

CCI CCS



L12 ANSWER 7 OF 9 CAPLUS COPYRIGHT 2005 ACS on STN

AN 1981:516453 CAPLUS

DN 95:116453

TI Deep-setting photohardenable compositions

IN Crivello, James Vincent; Lam, Julia Hingwai

PA General Electric Co., USA

SO Ger. Offen., 23 pp.

CODEN: GWXXBX

DT Patent

LA German

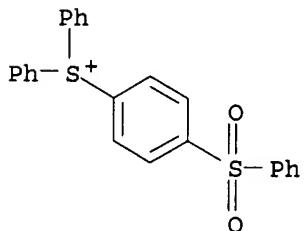
FAN CNT 2

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|---|------|----------|-----------------|----------|
| PI | DE 3035807 | A1 | 19810409 | DE 1980-3035807 | 19800923 |
| | DE 3035807 | C2 | 19930401 | | |
| | ZA 8005273 | A | 19811125 | ZA 1980-5273 | 19800826 |
| | GB 2061280 | A | 19810513 | GB 1980-29024 | 19800909 |
| | GB 2061280 | B2 | 19840516 | | |
| | CA 1120181 | A1 | 19820316 | CA 1980-361443 | 19800925 |
| | FR 2466457 | A1 | 19810410 | FR 1980-20689 | 19800926 |
| | FR 2466457 | B1 | 19850308 | | |
| | JP 56055420 | A2 | 19810516 | JP 1980-133103 | 19800926 |
| | JP 63036332 | B4 | 19880720 | | |
| | ES 495420 | A1 | 19811016 | ES 1980-495420 | 19800926 |
| | AU 8062780 | A1 | 19810409 | AU 1980-62780 | 19800929 |
| | AU 539699 | B2 | 19841011 | | |
| | BR 8006335 | A | 19810414 | BR 1980-6335 | 19800929 |
| PRAI | US 1979-79692 | A | 19790928 | | |
| AB | The sulfonium compds. 4-RC ₆ H ₄ S+Ph ₂ AsF ₆ ⁻ (R = PhS, PhSO, or PhSO ₂) and 4-(PhS)C ₆ H ₄ S+Ph ₂ PF ₆ ⁻ [75482-18-7] are useful as initiators for the polymerization of photohardenable epoxy, phenolic, vinyl, and other compds. Thus, Ph ₂ S [139-66-2] was treated with Cl in the presence of AlCl ₃ , and the reaction product was treated with KAsF ₆ [17029-22-0] to prepare 4-(PhS)C ₆ H ₄ S+Ph ₂ AsF ₆ ⁻ (I) [75482-17-6]. A 3% solution containing 3,4-epoxycyclohexylmethyl 3,4-epoxycyclohexanecarboxylate (II) and I was hardened by UV light as a 1270-μ layer. With Ph ₃ S+ AsF ₆ ⁻ as the initiator instead of I, the maximum thickness of II for satisfactory hardening was 254-381 μ. | | | | |
| IT | 75482-29-0 | | | | |
| | RL: CAT (Catalyst use); USES (Uses) (catalysts, for photopolyrn. and photocrosslinking) | | | | |
| RN | 75482-29-0 CAPLUS | | | | |
| CN | Sulfonium, diphenyl[4-(phenylsulfonyl)phenyl]-, hexafluoroarsenate(1-) (9CI) (CA INDEX NAME) | | | | |

CM 1

CRN 47572-95-2

CMF C24 H19 O₂ S₂

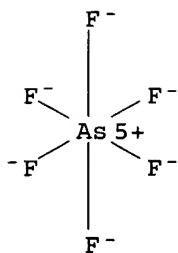


CM 2

CRN 16973-45-8

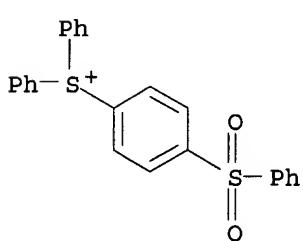
CMF As F₆

CCI CCS



L12 ANSWER 8 OF 9 CAPLUS COPYRIGHT 2005 ACS on STN
 AN 1980:605102 CAPLUS
 DN 93:205102
 TI Complex triarylsulfonium salt photoinitiators. II. The preparation of several new complex triarylsulfonium salts and the influence of their structure in photoinitiated cationic polymerization
 AU Crivello, J. V.; Lam, J. H. W.
 CS Gen. Electr. Corp. Res. Dev. Cent., Schenectady, NY, 12301, USA
 SO Journal of Polymer Science, Polymer Chemistry Edition (1980), 18(8), 2697-714
 CODEN: JPLCAT; ISSN: 0449-296X
 DT Journal
 LA English
 AB Complex triarylsulfonium salts containing thiophenoxy chromophores were prepared
 The effects of the position of the thiophenoxy group on the rate of photolysis and on the photoinitiated cationic polymerization of various monomers
 were investigated. Salts in which the thiophenoxy group was oxidized to the sulfoxide and the sulfone also were prepared to examine the effects of the oxidation state of the S-bearing chromophore on the efficiencies in photoinitiated cationic polymerization. All complex salts having extended conjugation not impeded by positional isomerization or blocked by oxidation of the thiophenoxy group are more reactive than the corresponding triphenylsulfonium salts in cationic polymerization
 IT 75482-29-0
 RL: CAT (Catalyst use); USES (Uses)
 (catalysts, for cationic photochem. polymerization)
 RN 75482-29-0 CAPLUS
 CN Sulfonium, diphenyl[4-(phenylsulfonyl)phenyl]-, hexafluoroarsenate(1-)
 (9CI) (CA INDEX NAME)

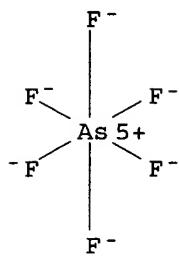
CM 1
 CRN 47572-95-2
 CMF C24 H19 O2 S2



CM 2

CRN 16973-45-8

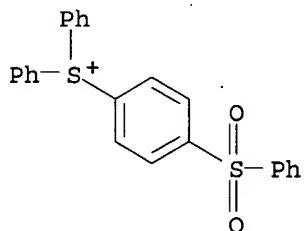
CMF As F6
CCI CCS



L12 ANSWER 9 OF 9 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1972:85504 CAPLUS
DN 76:85504
TI Electrochemistry of organic sulfur compounds. III. Novel anodic synthesis of a sulfonium salt from diphenyl sulfide
AU Uneyama, Kenji; Torii, Sigeru
CS Sch. Eng., Okayama Univ., Okayama, Japan
SO Journal of Organic Chemistry (1972), 37(3), 367-9
CODEN: JOCEAH; ISSN: 0022-3263
DT Journal
LA English
AB Ph2S, dissolved in MeCN containing LiClO4, was electrolyzed at 30° to give diphenyl [p-(phenylthio)phenyl] sulfonium (I), Ph2SO, and 1,4-bis(phenylthio)benzene. Sulfonium salt I predominated in the absence of water, while Ph2SO increased as the concentration of H2O was raised.
IT 32958-91-1P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)
RN 32958-91-1 CAPLUS
CN Sulfonium, diphenyl[4-(phenylsulfonyl)phenyl]-, perchlorate (9CI) (CA INDEX NAME)

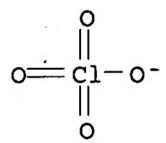
CM 1

CRN 47572-95-2
CMF C24 H19 O2 S2



CM 2

CRN 14797-73-0
CMF Cl O4



=>

L13 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2005 ACS on STN

AN 2005:219970 CAPLUS

DN 142:306448

TI Onium salt compound and radiation-sensitive resin composition

IN Yoneda, Eiji; Wang, Yong; Nishimura, Yukio

PA Japan

SO U.S. Pat. Appl. Publ., 85 pp.

CODEN: USXXCO

DT Patent

LA English

FAN.CNT 2

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|----------------|------|----------|-----------------|----------|
| PI | US 2005053861 | A1 | 20050310 | US 2003-743809 | 20031224 |
| | JP 2004250427 | A2 | 20040909 | JP 2003-182089 | 20030626 |
| | JP 2005104956 | A2 | 20050421 | JP 2003-423516 | 20031219 |
| PRAI | JP 2002-373531 | A | 20021225 | | |
| | JP 2002-373625 | A | 20021225 | | |
| | JP 2003-182089 | A | 20030626 | | |
| | JP 2003-315010 | A | 20030908 | | |

OS MARPAT 142:306448

AB An onium salt compound having a cation moiety of formula I (A = I, S; m = 1 or 2; n = 0 or 1; x = 1-10; and Ar1, Ar2 = aromatic hydrocarbon group; and P = -O-SO2R, -O-S(O)R, -SO2R; R = H, (substituted) alkyl group, or a (substituted) alicyclic hydrocarbon group) is disclosed. The onium salt compound is suitable as a photoacid generator for photoresists of a pos.-tone radiation-sensitive resin composition. The pos.-tone radiation-sensitive resin composition containing this compound is useful as a chemical-amplified photoresist exhibiting high resolution at high sensitivity, responsive to various radiations, and having outstanding storage stability.

IT 847799-76-2P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation of onium salt compound as photoacid generator for radiation-sensitive resin composition)

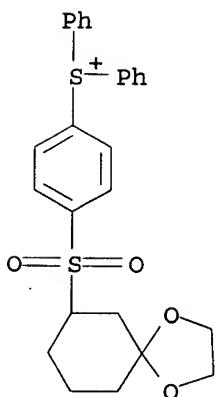
RN 847799-76-2 CAPLUS

CN Sulfonium, [4-(1,4-dioxaspiro[4.5]dec-7-ylsulfonyl)phenyl]diphenyl-, salt with 1,1,2,2,3,3,4,4,4-nonafluoro-1-butanесulfonic acid (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 847799-75-1

CMF C26 H27 O4 S2



CM 2

CRN 45187-15-3
CMF C4 F9 O3 S

-O₃S-(CF₂)₃-CF₃

10/743,809, ~~9/5/05~~
9/5/05, CA Reg. File, STRUCT. search, PGS

(FILE 'HOME' ENTERED AT 19:13:38 ON 05 SEP 2005)

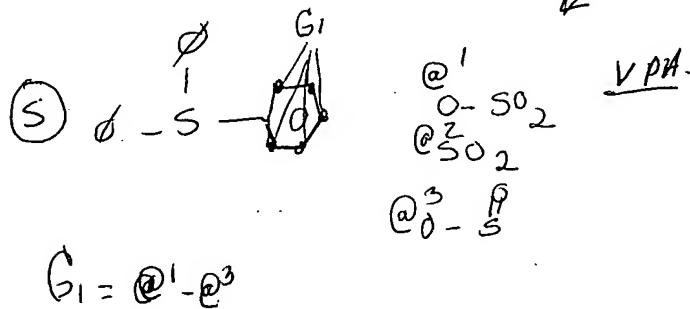
FILE 'REGISTRY' ENTERED AT 19:13:49 ON 05 SEP 2005

L1 STRUCTURE uploaded
L2 65 S L1 FULL

FILE 'CAPLUS' ENTERED AT 19:14:26 ON 05 SEP 2005

L3 13 S L2

=>



L3 ANSWER 1 OF 13 CAPLUS COPYRIGHT 2005 ACS on STN

AN 2005:219970 CAPLUS

DN 142:306448

TI Onium salt compound and radiation-sensitive resin composition

IN Yoneda, Eiji; Wang, Yong; Nishimura, Yukio

PA Japan

SO U.S. Pat. Appl. Publ., 85 pp.

CODEN: USXXCO

DT Patent

LA English

FAN.CNT 2

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|----------------|------|----------|-----------------|----------|
| PI | US 2005053861 | A1 | 20050310 | US 2003-743809 | 20031224 |
| | JP 2004250427 | A2 | 20040909 | JP 2003-182089 | 20030626 |
| | JP 2005104956 | A2 | 20050421 | JP 2003-423516 | 20031219 |
| PRAI | JP 2002-373531 | A | 20021225 | | |
| | JP 2002-373625 | A | 20021225 | | |
| | JP 2003-182089 | A | 20030626 | | |
| | JP 2003-315010 | A | 20030908 | | |

OS MARPAT 142:306448

AB An onium salt compound having a cation moiety of formula I (A = I, S; m = 1 or 2; n = 0 or 1; x = 1-10; and Ar1, Ar2 = aromatic hydrocarbon group; and P = -O-SO₂R, -O-S(O)R, -SO₂R; R = H, (substituted) alkyl group, or a (substituted) alicyclic hydrocarbon group) is disclosed. The onium salt compound is suitable as a photoacid generator for photoresists of a pos.-tone radiation-sensitive resin composition. The pos.-tone radiation-sensitive resin composition containing this compound is useful as a chemical-amplified photoresist exhibiting high resolution at high sensitivity, responsive to various radiations, and having outstanding storage stability.

IT 753454-43-2P 753454-51-2P 847799-93-3P
847799-95-5P 847799-97-7P 847799-99-9P
847800-01-5P 847800-03-7P 847800-05-9P
847800-07-1P 847800-09-3P 847800-11-7P
847800-12-8P

RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(onium salt compound as photoacid generator for radiation-sensitive resin composition)

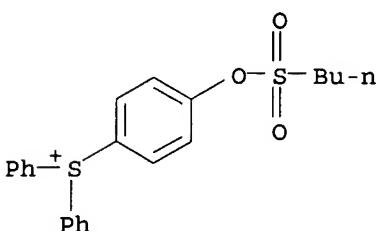
RN 753454-43-2 CAPLUS

CN Sulfonium, [4-[(butylsulfonyl)oxy]phenyl]diphenyl-, salt with 1,1,2,2,3,3,4,4,4-nonafluoro-1-butan sulfonic acid (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 753454-42-1

CMF C22 H23 O3 S2



CM 2

CRN 45187-15-3
CMF C4 F9 03 S

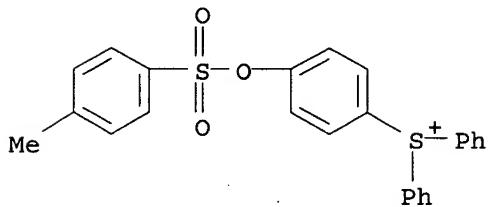
$$-\text{O}_3\text{S}- (\text{CF}_2)_3 - \text{CF}_3$$

RN 753454-51-2 CAPLUS

CN Sulfonium, [4-[(4-methylphenyl)sulfonyl]oxy]phenyl]diphenyl-, salt with 1,1,2,2,3,3,4,4,4-nonafluoro-1-butanesulfonic acid (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 753454-50-1
CMF C25 H21 O3 S2



CM 2

CRN 45187-15-3
CMF C4 F9 O3 S

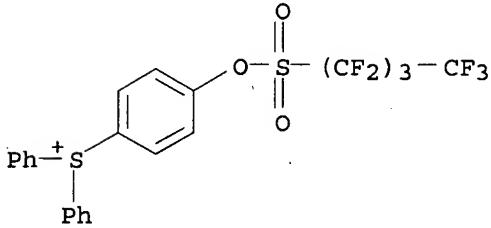
$$-\text{O}_3\text{S}- (\text{CF}_2)_3 - \text{CF}_3$$

RN 847799-93-3 CAPLUS

CN Sulfonium, [4-[[[nonafluorobutyl]sulfonyl]oxy]phenyl]diphenyl-, salt with 1,1,2,2,3,3,4,4,4-nonafluoro-1-butanesulfonic acid (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 847799-92-2
CMF C22 H14 F9 O3 S2



CM 2

CRN 45187-15-3
CMF C4 F9 03 S

$-\text{O}_3\text{S}- (\text{CF}_2)_3-\text{CF}_3$

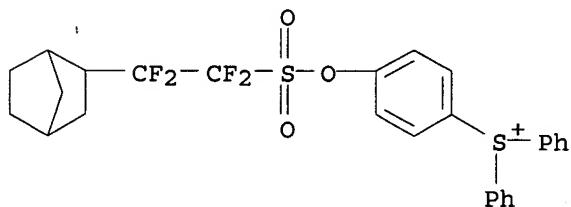
RN 847799-95-5 CAPLUS

CN Sulfonium, [4-[[[2-bicyclo[2.2.1]hept-2-yl-1,1,2,2-tetrafluoroethyl]sulfonyl]oxy]phenyl]diphenyl-, salt with 1,1,2,2,3,3,4,4,4-nonafluoro-1-butan sulfonic acid (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 847799-94-4

CMF C27 H25 F4 O3 S2



CM 2

CRN 45187-15-3

CMF C4 F9 O3 S

$-\text{O}_3\text{S}- (\text{CF}_2)_3-\text{CF}_3$

RN 847799-97-7 CAPLUS

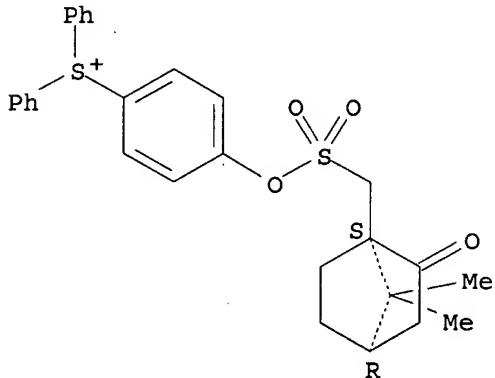
CN Sulfonium, [4-[[[[1S,4R]-7,7-dimethyl-2-oxobicyclo[2.2.1]hept-1-yl]methyl]sulfonyl]oxy]phenyl]diphenyl-, salt with 1,1,2,2,3,3,4,4,4-nonafluoro-1-butan sulfonic acid (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 847799-96-6

CMF C28 H29 O4 S2

Absolute stereochemistry.



CM 2

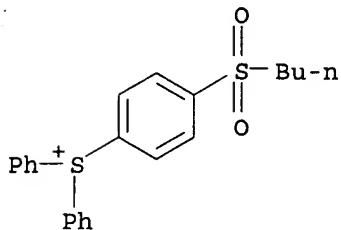
CRN 45187-15-3
CMF C4 F9 O3 S

$-\text{O}_3\text{S}-(\text{CF}_2)_3-\text{CF}_3$

RN 847799-99-9 CAPLUS
CN Sulfonium, [4-(butylsulfonyl)phenyl]diphenyl-, salt with
1,1,2,2,3,3,4,4,4-nonafluoro-1-butanесulfonic acid (1:1) (9CI) (CA INDEX
NAME)

CM 1

CRN 847799-98-8
CMF C22 H23 O2 S2



CM 2

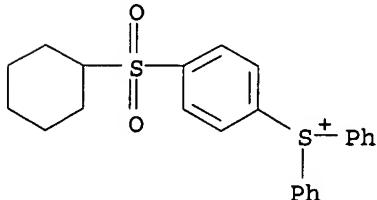
CRN 45187-15-3
CMF C4 F9 O3 S

$-\text{O}_3\text{S}-(\text{CF}_2)_3-\text{CF}_3$

RN 847800-01-5 CAPLUS
CN Sulfonium, [4-(cyclohexylsulfonyl)phenyl]diphenyl-, salt with
1,1,2,2,3,3,4,4,4-nonafluoro-1-butanесulfonic acid (1:1) (9CI) (CA INDEX
NAME)

CM 1

CRN 847800-00-4
CMF C24 H25 O2 S2



CM 2

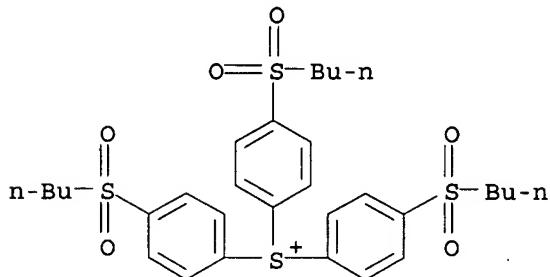
CRN 45187-15-3
CMF C4 F9 O3 S

-O₃S-(CF₂)₃-CF₃

RN 847800-03-7 CAPLUS
CN Sulfonium, tris[4-(butylsulfonyl)phenyl]-, salt with 1,1,2,2,3,3,4,4,4-nonafluoro-1-butanesulfonic acid (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 847800-02-6
CMF C30 H39 O6 S4



CM 2

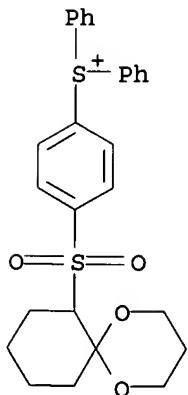
CRN 45187-15-3
CMF C4 F9 O3 S

-O₃S-(CF₂)₃-CF₃

RN 847800-05-9 CAPLUS
CN Sulfonium, [4-(1,5-dioxaspiro[5.5]undec-7-ylsulfonyl)phenyl]diphenyl-, salt with 1,1,2,2,3,3,4,4,4-nonafluoro-1-butanesulfonic acid (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 847800-04-8
CMF C27 H29 O4 S2



CM 2

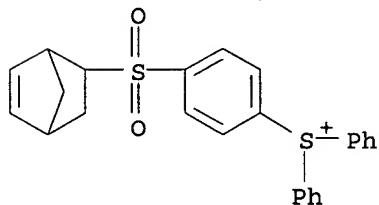
CRN 45187-15-3
CMF C4 F9 O3 S

$-\text{O}_3\text{S}-(\text{CF}_2)_3-\text{CF}_3$

RN 847800-07-1 CAPLUS
CN Sulfonium, [4-(bicyclo[2.2.1]hept-5-en-2-ylsulfonyl)phenyl]diphenyl-, salt with 1,1,2,2,3,3,4,4,4-nonafluoro-1-butanesulfonic acid (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 847800-06-0
CMF C25 H23 O2 S2



CM 2

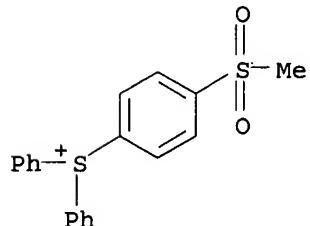
CRN 45187-15-3
CMF C4 F9 O3 S

$-\text{O}_3\text{S}-(\text{CF}_2)_3-\text{CF}_3$

RN 847800-09-3 CAPLUS
CN Sulfonium, [4-(methylsulfonyl)phenyl]diphenyl-, salt with 1,1,2,2,3,3,4,4,4-nonafluoro-1-butanesulfonic acid (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 847800-08-2
CMF C19 H17 O2 S2



CM 2

CRN 45187-15-3
CMF C4 F9 03 S

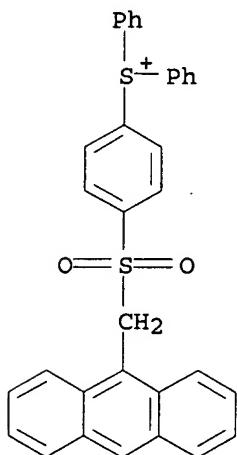
$$-\text{O}_3\text{S}- (\text{CF}_2)_3 - \text{CF}_3$$

RN 847800-11-7 CAPLUS

CN Sulfonium, [4-[(9-anthracyl methyl)sulfonyl]phenyl]diphenyl-, salt with 1,1,2,2,3,3,4,4,4-nonafluoro-1-butanesulfonic acid (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 847800-10-6
CMF C33 H25 O2 S2



CM 2

CRN 45187-15-3
CMF C4 F9 O3 S

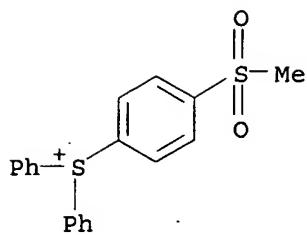
$$-\text{O}_3\text{S}- (\text{CF}_2)_3 - \text{CF}_3$$

RN 847800-12-8 CAPLUS

CN 'Sulfonium, [4-(methylsulfonyl)phenyl]diphenyl-, salt with
 $\alpha,\alpha,\beta,\beta$ -tetrafluorobicyclo[2.2.1]heptane-2-
ethanesulfonic acid (1:1) (9CI) (CA INDEX NAME)

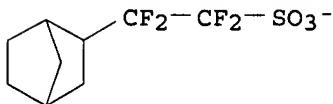
CM 1

CRN 847800-08-2
CMF C19 H17 O2 S2



CM 2

CRN 474516-37-5
CMF C9 H11 F4 O3 S



IT 847799-76-2P

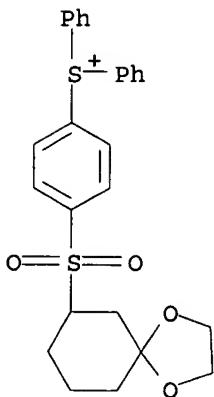
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of onium salt compound as photoacid generator for radiation-sensitive resin composition)

RN 847799-76-2 CAPLUS

CN Sulfonium, [4-(1,4-dioxaspiro[4.5]dec-7-ylsulfonyl)phenyl]diphenyl-, salt with 1,1,2,2,3,3,4,4,4-nonafluoro-1-butanesulfonic acid (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 847799-75-1
CMF C26 H27 O4 S2



CM 2

CRN 45187-15-3
CMF C4 F9 O3 S

-O3S- (CF2)3-CF3

L3 ANSWER 2 OF 13 CAPLUS COPYRIGHT 2005 ACS on STN

AN 2004:741785 CAPLUS

DN 141:268555

TI Onium salts for radiation-sensitive acid generator for positive photoresist compositions

IN Yoneda, Eiji; Nishimura, Yukio; Wang, Yong

PA JSR Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 48 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 2

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|----------------|------|----------|-----------------|----------|
| PI | JP 2004250427 | A2 | 20040909 | JP 2003-182089 | 20030626 |
| | US 2005053861 | A1 | 20050310 | US 2003-743809 | 20031224 |
| PRAI | JP 2002-373625 | A | 20021225 | | |
| | JP 2002-373531 | A | 20021225 | | |
| | JP 2003-182089 | A | 20030626 | | |
| | JP 2003-315010 | A | 20030908 | | |

OS MARPAT 141:268555

AB The onium salt has cationic portion represented with $(Ar_2)^n \cdot A^{+-} \cdot (Ar_1)^m \cdot (OZ)^x$ (A = I, S; m = 1, 2; n = 0, 1; (m+n) = 2; x = integer 1-10; Ar1-2 = mono-valent C6-20 aromatic hydrocarbon, mono-valent C3-20 heterocyclic ring, 3-8 membered ring residue with Ar1, Ar2, and A; Z = $-SO_2R_1$, $-S(O)R_2$; R1-2 = H, C1-20 alkyl, mono-valent C3-20 alicyclic, etc.). The onium salt provides photoresist composition of high sensitivity and good storageability.

IT 753454-43-2P 753454-45-4P 753454-47-6P

753454-49-8P 753454-51-2P

RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(onium salts for radiation-sensitive acid generator for pos. photoresist compns.)

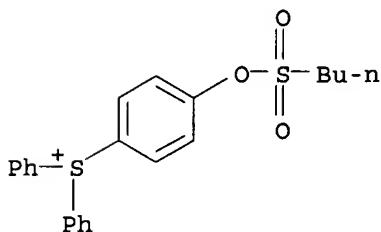
RN 753454-43-2 CAPLUS

CN Sulfonium, [4-[(butylsulfonyl)oxy]phenyl]diphenyl-, salt with 1,1,2,2,3,3,4,4,4-nonafluoro-1-butanesulfonic acid (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 753454-42-1

CMF C22 H23 O3 S2



CM 2

CRN 45187-15-3

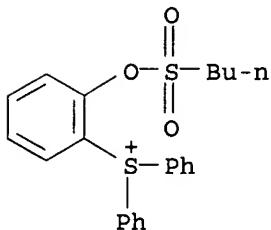
CMF C4 F9 O3 S

$-O_3S-(CF_2)_3-CF_3$

RN 753454-45-4 CAPLUS
CN Sulfonium, [2-[(butylsulfonyl)oxy]phenyl]diphenyl-, salt with
1,1,2,2,3,3,4,4,4-nonafluoro-1-butanесulfonic acid (1:1) (9CI) (CA INDEX
NAME)

CM 1

CRN 753454-44-3
CMF C22 H23 O3 S2



CM 2

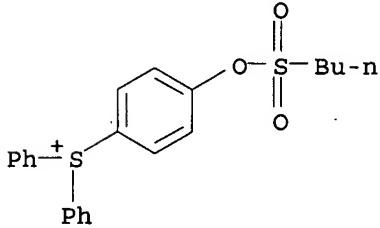
CRN 45187-15-3
CMF C4 F9 O3 S

-O₃S-(CF₂)₃-CF₃

RN 753454-47-6 CAPLUS
CN Sulfonium, [4-[(butylsulfonyl)oxy]phenyl]diphenyl-, salt with
α,α,β,β-tetrafluorobicyclo[2.2.1]heptane-2-
ethanesulfonic acid (1:1) (9CI) (CA INDEX NAME)

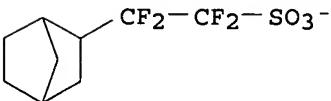
CM 1

CRN 753454-42-1
CMF C22 H23 O3 S2



CM 2

CRN 474516-37-5
CMF C9 H11 F4 O3 S



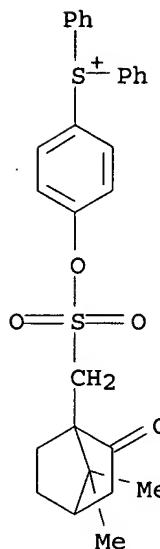
RN 753454-49-8 CAPLUS

CN Sulfonium, [4-[[[(7,7-dimethyl-2-oxobicyclo[2.2.1]hept-1-yl)methyl]sulfonyl]oxy]phenyl]diphenyl-, salt with 1,1,2,2,3,3,4,4,4-nonafluoro-1-butanesulfonic acid (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 753454-48-7

CMF C28 H29 O4 S2



CM 2

CRN 45187-15-3

CMF C4 F9 O3 S

-O₃S-(CF₂)₃-CF₃

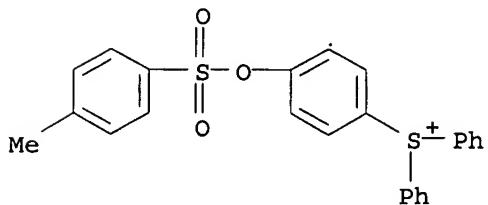
RN 753454-51-2 CAPLUS

CN Sulfonium, [4-[[[(4-methylphenyl)sulfonyl]oxy]phenyl]diphenyl-, salt with 1,1,2,2,3,3,4,4,4-nonafluoro-1-butanesulfonic acid (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 753454-50-1

CMF C25 H21 O3 S2



CM 2

CRN 45187-15-3
CMF C4 F9 O3 S

-O₃S-(CF₂)₃-CF₃

L3 ANSWER 3 OF 13 CAPLUS COPYRIGHT 2005 ACS on STN
AN 2003:853314 CAPLUS
DN 139:343479
TI Sulfonium compounds as radiation-sensitive acid generators and resist compositions containing them
IN Kodama, Kunihiro
PA Fuji Photo Film Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 66 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---------------------|------|----------|-----------------|----------|
| PI JP 2003307839 | A2 | 20031031 | JP 2002-112372 | 20020415 |
| PRAI JP 2002-112372 | | 20020415 | | |

OS MARPAT 139:343479
AB (Ba)mAaS+Y₁Y₂ X- (I; Y₁, Y₂ = alkyl, aryl, aralkyl, heterocycl, oxoalkyl, oxoaralkyl; Y₁ and Y₂ may be bonded together to form a ring; Aa = direct bond, organic group; Ba = group having CONRa or SO₂NRa; Ra = H, alkyl; m = 1-3; X- = nonnucleophilic anion), which generate acids upon irradiation with actinic ray or radiation, are claimed. Also claimed are resist compns. containing I, pos.-working resist compns. containing I and resins

which are decomposed by acids to show increased solubility to an alkaline developer,

neg.-working resist compns. containing I, water-insol. alkali-soluble resins, and

crosslinking agents which crosslink to the alkali-soluble resins by acids, etc. The resist compns. containing I show high sensitivity, resolution, and good

profile, and are especially suitable for irradiation with far-UV and electron beam.

IT 617692-49-6

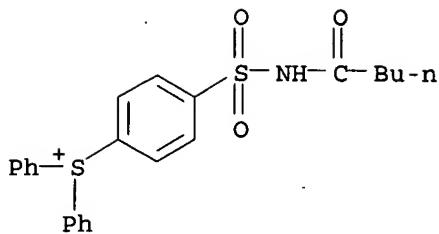
RL: CAT (Catalyst use); USES (Uses)
(preparation of sulfonium compds. having amide or sulfonamide linkage as radiation-sensitive acid generators and resist compns. containing them)

RN 617692-49-6 CAPLUS

CN Sulfonium, [4-[[[(1-oxopentyl)amino]sulfonyl]phenyl]diphenyl-, salt with 1,1,2,2,3,3,4,4,4-nonafluoro-1-butanesulfonic acid (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 617692-48-5
CMF C23 H24 N O3 S2



CM 2

CRN 45187-15-3
CMF C4 F9 O3 S

$\text{O}_3\text{S}^-(\text{CF}_2)_3\text{---CF}_3$

L3 ANSWER 4 OF 13 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1997:599494 CAPLUS
DN 127:191198
TI Photoinitiators and photoinitiator compositions and photocurable hybrid resin compositions

IN Toba, Yasumasa; Tanaka, Yasuhiro; Yasuike, Madoka
PA Toyo Ink Mfg. Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 31 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---------------------|------|----------|-----------------|----------|
| PI JP 09183961 | A2 | 19970715 | JP 1995-342494 | 19951228 |
| PRAI JP 1995-342494 | | 19951228 | | |

OS MARPAT 127:191198

AB The photoinitiator compns., having a high curing rate, contain sulfoxonium borates $\text{R}_1\text{R}_2\text{R}_3\text{S}^+(\text{O})\cdot(\text{BXmZn})$ - (R₁-R₃ = C₆-20 aryl which may be substituted by halo, OH, NO₂, CN, NH₂, alkyl, alkoxy, aralkyloxy, aryl, aryloxy, aralkyl group; X = F, Cl; Z = Ph group substituted by ≥ 2 F, CN, NO₂, CF₃; m = 0-3; n = 1-4; m + n = 4). Thus, a composition containing

100

parts an epoxy resin (ERL 4221) and 3 parts triphenylsulfoxonium tetrakis(pentafluorophenyl)borate was irradiated by UV to give a cured film.

IT 194293-67-9 194293-75-9

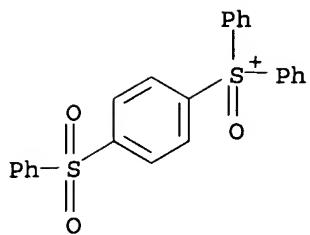
RL: CAT (Catalyst use); USES (Uses)
(sulfoxonium borate photoinitiators and photocurable hybrid resin compns.)

RN 194293-67-9 CAPLUS

CN Sulfoxonium, diphenyl[4-(phenylsulfonyl)phenyl]-, tetrakis(pentafluorophenyl)borate(1-) (9CI) (CA INDEX NAME)

CM 1

CRN 139572-76-2
CMF C24 H19 O3 S2

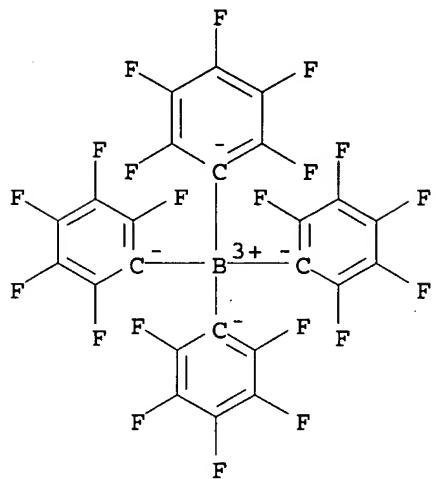


CM 2

CRN 47855-94-7

CMF C24 H16 B F20

CCI CCS



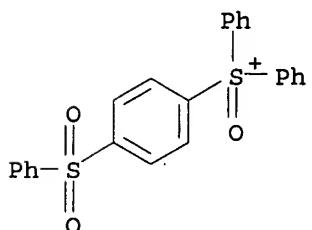
RN 194293-75-9 CAPLUS

CN Sulfoxonium, diphenyl[4-(phenylsulfonyl)phenyl]-, tetrakis[4-(trifluoromethyl)phenyl]borate(1-) (9CI) (CA INDEX NAME)

CM 1

CRN 139572-76-2

CMF C24 H19 O3 S2

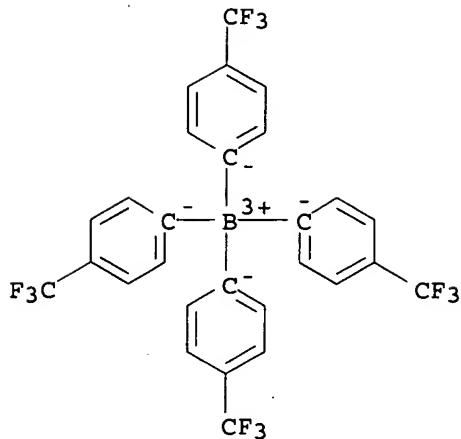


CM 2

CRN 47823-82-5

CMF C28 H16 B F12

CCI CCS



L3 ANSWER 5 OF 13 CAPLUS COPYRIGHT 2005 ACS on STN
 AN 1996:256323 CAPLUS

DN 124:318806

TI Photopolymerization initiators, radiation-curable compositions, and their cured products

IN Abe, Tetsuya; Yokoshima, Minoru

PA Nippon Kayaku Kk, Japan

SO Jpn. Kokai Tokkyo Koho, 13 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|----|-------------|------|----------|-----------------|----------|
| PI | JP 08041116 | A2 | 19960213 | JP 1994-193778 | 19940727 |
| | JP 3424772 | B2 | 20030707 | | |

PRAI JP 1994-193778 19940727

OS MARPAT 124:318806

AB Sulfonium- and sulfoxonium-type photopolymn. initiators are synthesized and are used in radiation curable epoxy resins. Thus, compound I was oxidized with hydrogen peroxide to give compound II; II 1.5, Celloxide 2021 80, and EHPE 3150 20 parts were mixed and cured by UV to show transparency, storage stability, gloss, no odor, and tack free 23 mJ/cm².

IT 176310-56-8P 176310-58-0P 176310-62-6P
 176310-64-8P 176310-66-0P

RL: CAT (Catalyst use); IMF (Industrial manufacture); PREP (Preparation); USES (Uses)

(preparation of photopolymn. initiators and radiation-curable compns.)

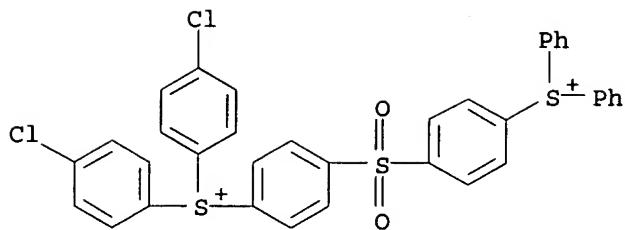
RN 176310-56-8 CAPLUS

CN Sulfonium, bis(4-chlorophenyl)[4-[[4-(diphenylsulfonio)phenyl]sulfonyl]phenyl]-, bis[hexafluorophosphate(1-)] (9CI) (CA INDEX NAME)

CM 1

CRN 176310-55-7

CMF C36 H26 Cl2 O2 S3

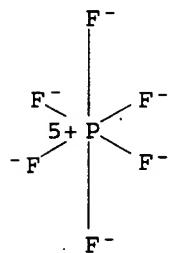


CM 2

CRN 16919-18-9

CMF F6 P

CCI CCS



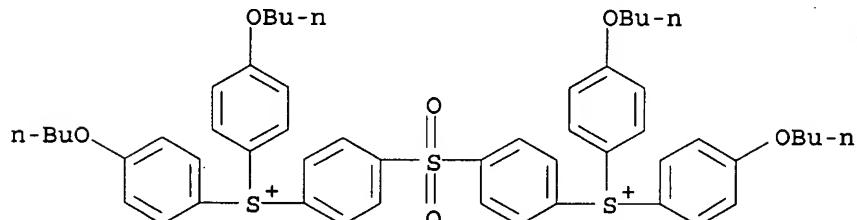
RN 176310-58-0 CAPLUS

CN Sulfonium, (sulfonyldi-4,1-phenylene)bis[bis(4-butoxyphenyl)-, bis[(OC-6-11)-hexafluoroantimonate(1-)] (9CI) (CA INDEX NAME)

CM 1

CRN 176310-57-9

CMF C52 H60 O6 S3

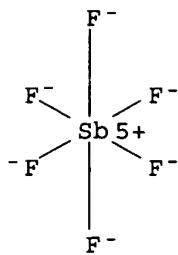


CM 2

CRN 17111-95-4

CMF F6 Sb

CCI CCS



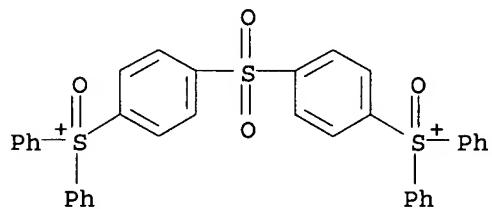
RN 176310-62-6 CAPLUS

CN Sulfoxonium, (sulfonyldi-4,1-phenylene)bis[diphenyl-, bis[hexafluorophosphate(1-)] (9CI) (CA INDEX NAME)

CM 1

CRN 176310-61-5

CMF C36 H28 O4 S3

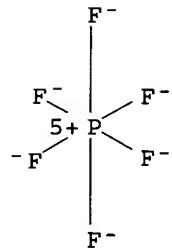


CM 2

CRN 16919-18-9

CMF F6 P

CCI CCS



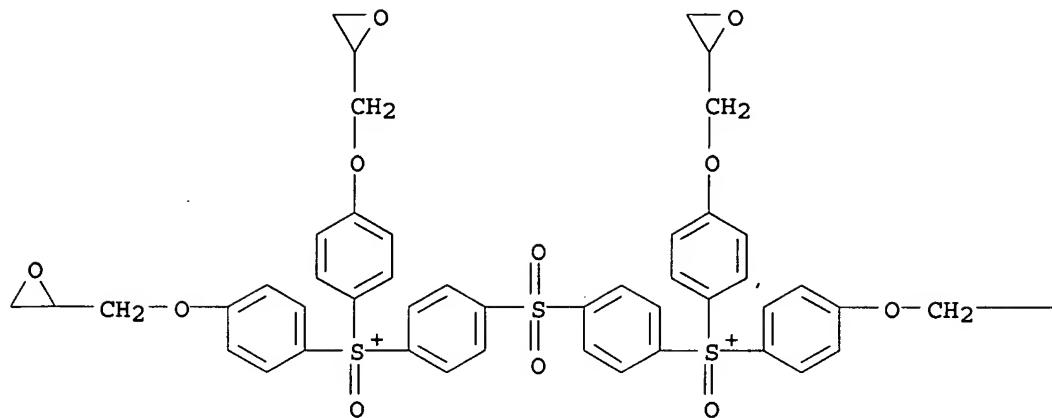
RN 176310-64-8 CAPLUS

CN Sulfoxonium, (sulfonyldi-4,1-phenylene)bis[bis[4-(oxiranylmethoxy)phenyl]-, bis[(OC-6-11)-hexafluoroantimonate(1-)] (9CI) (CA INDEX NAME)

CM 1

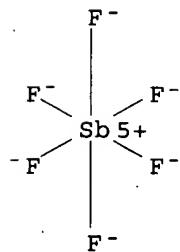
CRN 176310-63-7

CMF C48 H44 O12 S3



CM 2

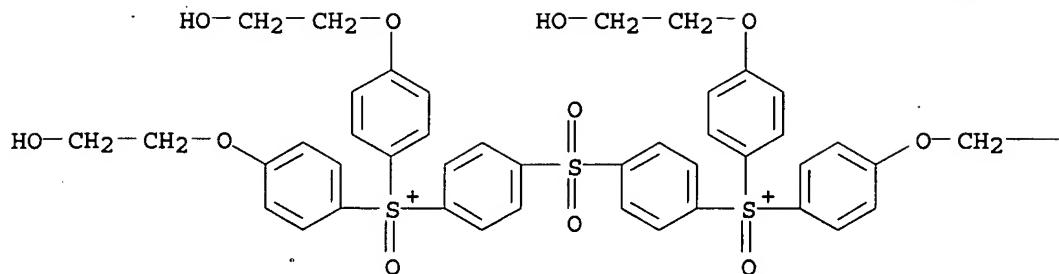
CRN 17111-95-4
 CMF F6 Sb
 CCI CCS



RN 176310-66-0 CAPLUS
 CN Sulfoxonium, (sulfonyldi-4,1-phenylene)bis[bis[4-(2-hydroxyethoxy)phenyl]-, bis[(OC-6-11)-hexafluoroantimonate(1-)] (9CI) (CA INDEX NAME)

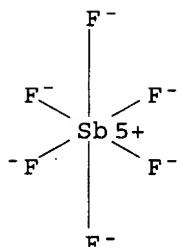
CM 1

CRN 176310-65-9
 CMF C44 H44 O12 S3

— CH₂— OH

CM 2

CRN 17111-95-4
 CMF F6 Sb
 CCI CCS



IT 176310-52-4P 176310-60-4P

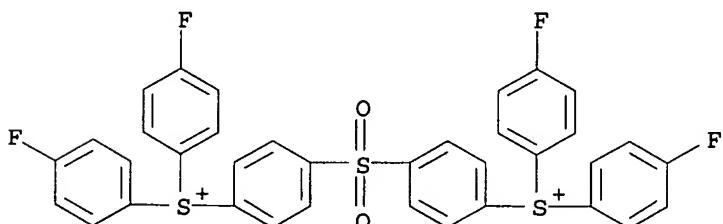
RL: CAT (Catalyst use); IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
 (preparation of photopolymn. initiators and radiation-curable compns.)

RN 176310-52-4 CAPLUS

CN Sulfonium, (sulfonyldi-4,1-phenylene)bis[bis(4-fluorophenyl)-, bis[(OC-6-11)-hexafluoroantimonate(1-)] (9CI) (CA INDEX NAME)

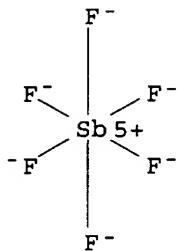
CM 1

CRN 176310-51-3
 CMF C36 H24 F4 O2 S3



CM 2

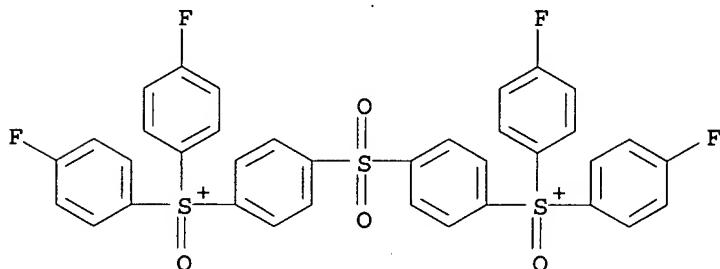
CRN 17111-95-4
CMF F6 Sb
CCI CCS



RN 176310-60-4 CAPLUS
CN Sulfoxonium, (sulfonyldi-4,1-phenylene)bis[bis(4-fluorophenyl)-, bis[(OC-6-11)-hexafluoroantimonate(1-)] (9CI) (CA INDEX NAME)

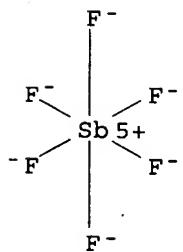
CM 1

CRN 176310-59-1
CMF C36 H24 F4 O4 S3



CM 2

CRN 17111-95-4
CMF F6 Sb
CCI CCS



L3 ANSWER 6 OF 13 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1996:256143 CAPLUS
DN 124:292462

TI Cationic photoinitiators and photocurable compositions and cured products
IN Abe, Tetsuya; Yokoshima, Minoru
PA Nippon Kayaku Kk, Japan
SO Jpn. Kokai Tokkyo Koho, 14 pp.
CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|----|-------------|------|----------|-----------------|----------|
| PI | JP 08027209 | A2 | 19960130 | JP 1994-189079 | 19940720 |
| | JP 3424771 | B2 | 20030707 | | |

PRAI JP 1994-189079

OS MARPAT 124:292462

AB The compns. useful for ink and coating applications, and giving odorless cured products with good gloss, comprise cationically polymerizable compds., and specific sulfonium compds. or sulfoxonium compds. as photoinitiators. Thus, a composition containing

PhCO-p-C6H4SO2-p-C6H4S+(C6H4-p-F)2·PF6- 1.5, Celloxide 2021 (alicyclic epoxy resin) 2021 80, and EHPE 3150 (alicyclic epoxy resin) 20 parts was applied on an Al test panel, and irradiated by UV to give coatings with good gloss.

IT 175840-84-3P 175840-92-3P 175840-94-5P

RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)

(sulfonium and sulfoxonium compds. as cationic photoinitiators and photocurable compns. and cured products)

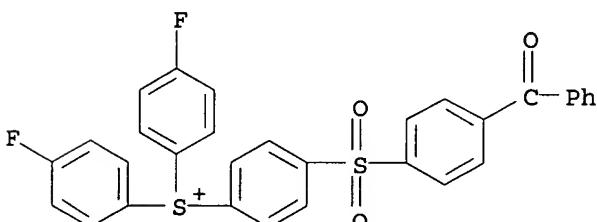
RN 175840-84-3 CAPLUS

CN Sulfonium, [4-[(4-benzoylphenyl)sulfonyl]phenyl]bis(4-fluorophenyl)-, hexafluorophosphate(1-) (9CI) (CA INDEX NAME)

CM 1

CRN 175840-83-2

CMF C31 H21 F2 O3 S2

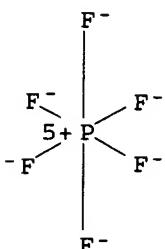


CM 2

CRN 16919-18-9

CMF F6 P

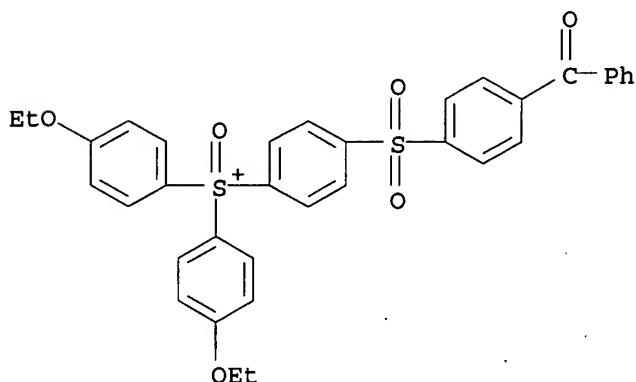
CCI CCS



RN 175840-92-3 CAPLUS
CN Sulfoxonium, [4-[(4-benzoylphenyl)sulfonyl]phenyl]bis(4-ethoxyphenyl)-, hexafluorophosphate(1-) (9CI) (CA INDEX NAME)

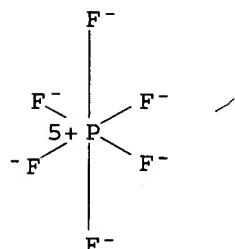
CM 1

CRN 175840-91-2
CMF C35 H31 O6 S2



CM 2

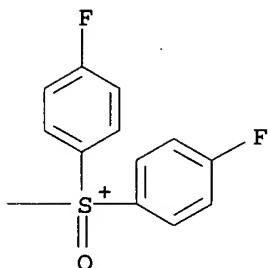
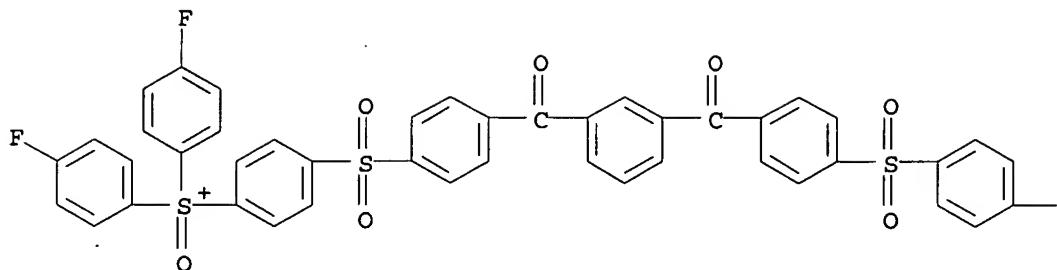
CRN 16919-18-9
CMF F6 P
CCI CCS



RN 175840-94-5 CAPLUS
CN Sulfoxonium, [1,3-phenylenebis(carbonyl-4,1-phenylenesulfonyl-4,1-phenylene)]bis[bis(4-fluorophenyl)-, bis[(OC-6-11)-hexafluoroantimonate(1-)] (9CI) (CA INDEX NAME)

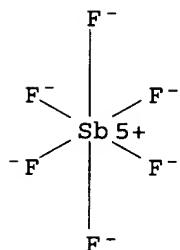
CM 1

CRN 175840-93-4
CMF C56 H36 F4 O8 S4



CM 2

CRN 17111-95-4
 CMF F6 Sb
 CCI CCS



L3 ANSWER 7 OF 13 CAPLUS COPYRIGHT 2005 ACS on STN
 AN 1992:131247 CAPLUS
 DN 116:131247
 TI Preparation of triarylsulfoxonium salts and their use as initiators for cationic photopolymerization
 IN Irving, Edward; Taylor, David Alan; Lunn, Robert James; Innocenzi, John Paul; Haines, Alan Hugh
 PA CIBA Ltd., Switz.
 SO Brit. UK Pat. Appl., 24 pp.
 CODEN: BAXXDU
 DT Patent
 LA English
 FAN.CNT 1

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---------------|------|----------|-----------------|----------|
| PI GB 2238787 | A1 | 19910612 | GB 1989-27530 | 19891206 |
| GB 2238787 | B2 | 19930303 | | |

| | | | | |
|--------------------|----|----------|-----------------|----------|
| JP 03271270 | A2 | 19911203 | JP 1990-333442 | 19901129 |
| DE 4038536 | A1 | 19910613 | DE 1990-4038536 | 19901203 |
| CA 2031428 | AA | 19910607 | CA 1990-2031428 | 19901204 |
| FR 2655338 | A1 | 19910607 | FR 1990-15147 | 19901204 |
| FR 2655338 | B1 | 19921002 | | |
| US 5576461 | A | 19961119 | US 1990-622905 | 19901206 |
| PRAI GB 1989-27530 | A | 19891206 | | |

OS MARPAT 116:131247

AB R1R2R3S+O X- [I; R1, R2, R3 = (substituted) C6-10 aryl, X = anion], useful as initiators for cationic polymerization of compds. such as diepoxides in the manufacture of coatings, are prepared by oxidation of the corresponding sulfonyl

salts using a peracid under basic conditions in a nonketone solvent. Use of the basic conditions and nonketone solvent improves the yield and eliminates contamination of the product with the starting material. Thus, a solution of 5.1 g NaOH and 6.7 g 30% aqueous H₂O₂ solution in 50 mL water was added dropwise to 300 mL MeOH containing 5.6 g (4-MeOC₆H₄)Ph₂SPF₆ and 6.1 g. p-toluenesulfonyl chloride at 15° with stirring, and the mixture was allowed to warm to room temperature overnight to give 84% yield I (R1 = 4-MeOC₆H₄, R2 = R3 = Ph, X = PF₆) (II). Irradiation of a mixture containing

100

parts bisphenol A diglycidyl ether and 3 parts II on tin plate with a 5000-W metal halide lamp 75 cm from the plate provided a tack-free coating in 2 mins.

IT 139572-77-3P 139572-79-5P

RL: PREP (Preparation)

(manufacture of, for cationic photopolymn. catalysts)

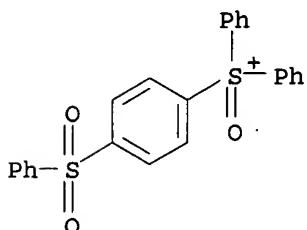
RN 139572-77-3 CAPLUS

CN Sulfoxonium, diphenyl[4-(phenylsulfonyl)phenyl]-, hexafluorophosphate(1-) (9CI) (CA INDEX NAME)

CM 1

CRN 139572-76-2

CMF C24 H19 O3 S2

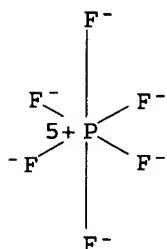


CM 2

CRN 16919-18-9

CMF F6 P

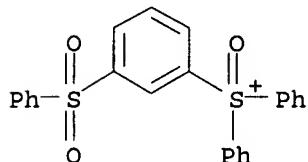
CCI CCS



RN 139572-79-5 CAPLUS
CN Sulfoxonium, diphenyl[3-(phenylsulfonyl)phenyl]-, hexafluorophosphate (1-)
(9CI) (CA INDEX NAME)

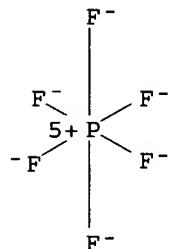
CM 1

CRN 139572-78-4
CMF C24 H19 O3 S2



CM 2

CRN 16919-18-9
CMF F6 P
CCI CCS



L3 ANSWER 8 OF 13 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1985:167245 CAPLUS
DN 102:167245
TI Recent advances in thermally and photochemically initiated cationic polymerization
AU Crivello, James V.; Lee, J. L.
CS Gen. Electr. Corp. Res. and Dev., Schenectady, NY, 12301, USA
SO Polymer Journal (Tokyo, Japan) (1985), 17(1), 73-83
CODEN: POLJB8; ISSN: 0032-3896
DT Journal
LA English
AB Classes of arylsulfonium salts are discussed which have enhanced efficiency as photoinitiators or thermal initiators of cationic polymerization. One of these compds., p-PhSC6H4SPh2+AsF6-, [75482-17-6], was identified as a component of the Friedel-Crafts reaction of C6H6 with S2Cl2. Similar compds., of formula ArSPh2+AsF6- (e.g., Ar = p-PhOC6H4, m-PhSC6H4, and p-PhSO2C6H4) and cyclic analogs (e.g., S-phenyldibenzothiophenium hexafluoroarsenate [82617-08-1]), were also prepared and characterized. Other classes (e.g., dialkylphenacylsulfonium salts, ArCOCH2SR2+X-) are also described; one class, characterized by 4-hydroxy-3,5-dimethoxyphenyldimethylsulfonium hexafluorophosphate [95896-72-3], is especially suited as thermal initiators. The activities of the initiators were tested in the cationic polymers of limonene dioxide, cyclohexene oxide, and styrene oxide.
IT 75482-29-0
RL: USES (Uses)

(photoinitiators, for cationic polymerization of epoxides)

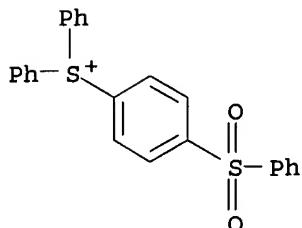
RN 75482-29-0 CAPLUS

CN Sulfonium, diphenyl[4-(phenylsulfonyl)phenyl]-, hexafluoroarsenate(1-)
(9CI) (CA INDEX NAME)

CM 1

CRN 47572-95-2

CMF C24 H19 O2 S2

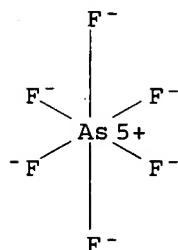


CM 2

CRN 16973-45-8

CMF As F6

CCI CCS



L3 ANSWER 9 OF 13 CAPLUS COPYRIGHT 2005 ACS on STN

AN 1983:180499 CAPLUS

DN 98:180499

TI Triarylsulfonium salts

IN Crivello, James V.; Lee, Julia L.

PA General Electric Co., USA

SO U.S., 8 pp. Cont.-in-part of U.S. Ser. No. 79,692, abandoned.

CODEN: USXXAM

DT Patent

LA English

FAN.CNT 2

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|----|-------------|------|----------|-----------------|----------|
| PI | US 4374066 | A | 19830215 | US 1980-200769 | 19801027 |
| | ZA 8005273 | A | 19811125 | ZA 1980-5273 | 19800826 |
| | GB 2061280 | A | 19810513 | GB 1980-29024 | 19800909 |
| | GB 2061280 | B2 | 19840516 | | |
| | CA 1120181 | A1 | 19820316 | CA 1980-361443 | 19800925 |
| | FR 2466457 | A1 | 19810410 | FR 1980-20689 | 19800926 |
| | FR 2466457 | B1 | 19850308 | | |
| | JP 56055420 | A2 | 19810516 | JP 1980-133103 | 19800926 |
| | JP 63036332 | B4 | 19880720 | | |
| | ES 495420 | A1 | 19811016 | ES 1980-495420 | 19800926 |

| | | | |
|--------------------|-------------|---------------|----------|
| AU 8062780 | A1 19810409 | AU 1980-62780 | 19800929 |
| AU 539699 | B2 19841011 | | |
| BR 8006335 | A 19810414 | BR 1980-6335 | 19800929 |
| PRAI US 1979-79692 | A2 19790928 | | |

AB Triarylsulfonium salts such as I [75482-17-6] are prepared by a method based on the reaction of an aromatic hydrocarbon S2Cl2, and Cl in the presence of a Friedel-Crafts catalyst. The triarylsulfonium salts are used as cationic photoinitiators to effect the deep-section cure of organic resin compns. Thus, a mixture of Ph2S [139-66-2] 37.2, AlCl3 13.34, and Cl 9.5 parts was stirred and poured onto 500 parts ice. The semisolid was washed with H2O. Then 27.8 parts AsF6- K+ and 500 parts H2O were added to the residue and the mixture stirred at 30° for 1 h. The product was washed with H2O then with anhydrous Et2O and dried at 60° for 16 h. The product was then recrystd. from 95% EtOH to give 31% yield of I having m.p. 77-87°. Films from a 3% solution of I in 3,4-epoxycyclohexylmethyl 3',4'-epoxycyclohexane carboxylate [2386-87-0] were radiation-cured in 1 min to a maximum thickness of 50 mils, compared with 15 mils for a similar film containing Ph3S+ AsF6-.

IT 75482-29-0P

RL: PREP (Preparation)

(preparation of, as photoinitiators for deep cure of polymers)

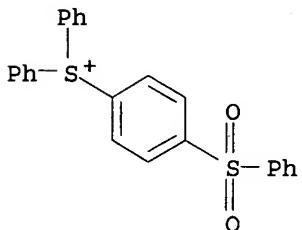
RN 75482-29-0 CAPLUS

CN Sulfonium, diphenyl[4-(phenylsulfonyl)phenyl]-, hexafluoroarsenate(1-) (9CI) (CA INDEX NAME)

CM 1

CRN 47572-95-2

CMF C24 H19 O2 S2

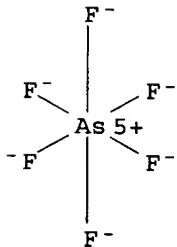


CM 2

CRN 16973-45-8

CMF As F6

CCI CCS



L3 ANSWER 10 OF 13 CAPLUS COPYRIGHT 2005 ACS on STN
 AN 1981:516453 CAPLUS
 DN 95:116453

TI Deep-setting photohardenable compositions
 IN Crivello, James Vincent; Lam, Julia Hingwai
 PA General Electric Co., USA
 SO Ger. Offen., 23 pp.
 CODEN: GWXXBX

DT Patent
 LA German

FAN.CNT 2

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|---------------|------|----------|-----------------|----------|
| PI | DE 3035807 | A1 | 19810409 | DE 1980-3035807 | 19800923 |
| | DE 3035807 | C2 | 19930401 | | |
| | ZA 8005273 | A | 19811125 | ZA 1980-5273 | 19800826 |
| | GB 2061280 | A | 19810513 | GB 1980-29024 | 19800909 |
| | GB 2061280 | B2 | 19840516 | | |
| | CA 1120181 | A1 | 19820316 | CA 1980-361443 | 19800925 |
| | FR 2466457 | A1 | 19810410 | FR 1980-20689 | 19800926 |
| | FR 2466457 | B1 | 19850308 | | |
| | JP 56055420 | A2 | 19810516 | JP 1980-133103 | 19800926 |
| | JP 63036332 | B4 | 19880720 | | |
| | ES 495420 | A1 | 19811016 | ES 1980-495420 | 19800926 |
| | AU 8062780 | A1 | 19810409 | AU 1980-62780 | 19800929 |
| | AU 539699 | B2 | 19841011 | | |
| | BR 8006335 | A | 19810414 | BR 1980-6335 | 19800929 |
| PRAI | US 1979-79692 | A | 19790928 | | |

AB The sulfonium compds. 4-RC₆H₄S+Ph₂AsF₆⁻ (R = PhS, PhSO, or PhSO₂) and 4-(PhS)C₆H₄S+Ph₂PF₆⁻ [75482-18-7] are useful as initiators for the polymerization of photohardenable epoxy, phenolic, vinyl, and other compds. Thus, Ph₂S [139-66-2] was treated with Cl in the presence of AlCl₃, and the reaction product was treated with KAsF₆ [17029-22-0] to prepare 4-(PhS)C₆H₄S+Ph₂AsF₆⁻ (I) [75482-17-6]. A 3% solution containing 3,4-epoxycyclohexylmethyl 3,4-epoxycyclohexanecarboxylate (II) and I was hardened by UV light as a 1270-μ layer. With Ph₃S+ AsF₆⁻ as the initiator instead of I, the maximum thickness of II for satisfactory hardening was 254-381 μ.

IT 75482-29-0

RL: CAT (Catalyst use); USES (Uses)
(catalysts, for photopolymer. and photocrosslinking)

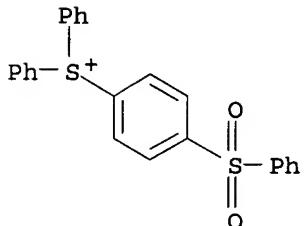
RN 75482-29-0 CAPLUS

CN Sulfonium, diphenyl[4-(phenylsulfonyl)phenyl]-, hexafluoroarsenate(1-)
(9CI) (CA INDEX NAME)

CM 1

CRN 47572-95-2

CMF C24 H19 O2 S2

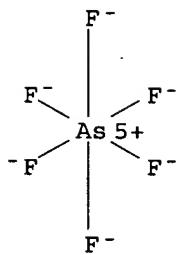


CM 2

CRN 16973-45-8

CMF As F6

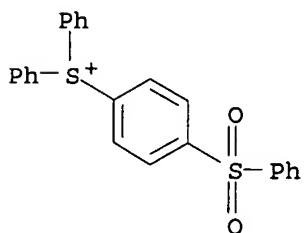
CCI CCS



L3 ANSWER 11 OF 13 CAPLUS COPYRIGHT 2005 ACS on STN
 AN 1980:605102 CAPLUS
 DN 93:205102
 TI Complex triarylsulfonium salt photoinitiators. II. The preparation of several new complex triarylsulfonium salts and the influence of their structure in photoinitiated cationic polymerization
 AU Crivello, J. V.; Lam, J. H. W.
 CS Gen. Electr. Corp. Res. Dev. Cent., Schenectady, NY, 12301, USA
 SO Journal of Polymer Science, Polymer Chemistry Edition (1980), 18(8), 2697-714
 CODEN: JPLCAT; ISSN: 0449-296X
 DT Journal
 LA English
 AB Complex triarylsulfonium salts containing thiophenoxy chromophores were prepared
 The effects of the position of the thiophenoxy group on the rate of photolysis and on the photoinitiated cationic polymerization of various monomers
 were investigated. Salts in which the thiophenoxy group was oxidized to the sulfoxide and the sulfone also were prepared to examine the effects of the oxidation state of the S-bearing chromophore on the efficiencies in photoinitiated cationic polymerization. All complex salts having extended conjugation not impeded by positional isomerization or blocked by oxidation of the thiophenoxy group are more reactive than the corresponding triphenylsulfonium salts in cationic polymerization
 IT 75482-29-0
 RL: CAT (Catalyst use); USES (Uses)
 (catalysts, for cationic photochem. polymerization)
 RN 75482-29-0 CAPLUS
 CN Sulfonium, diphenyl[4-(phenylsulfonyl)phenyl]-, hexafluoroarsenate(1-)
 (9CI) (CA INDEX NAME)

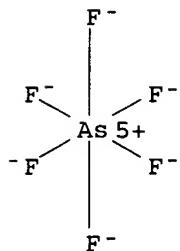
CM 1

CRN 47572-95-2
 CMF C24 H19 O2 S2

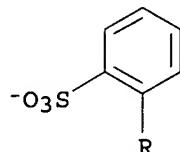
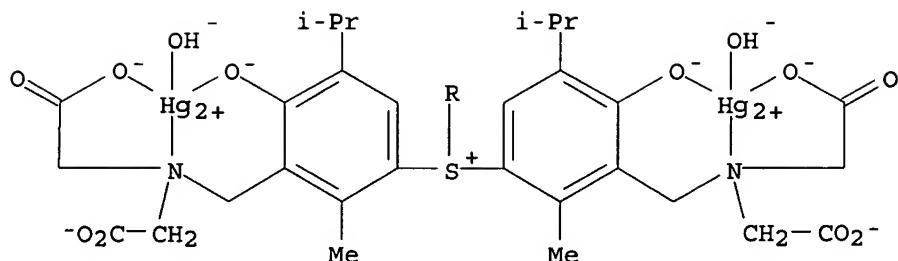


CM 2

CRN 16973-45-8
CMF As F6
CCI CCS



L3 ANSWER 12 OF 13 CAPLUS COPYRIGHT 2005 ACS on STN
AN 1972:145595 CAPLUS
DN 76:145595
TI Spectrophotometric study of the complexing of mercury(II) with some phthalexons. 2. Complexing of mercury(II) with thymolphthalexon-S
AU Cherkesov, A. I.; Tonkoshkurov, V. S.; Postoronko, A. I.
CS USSR
SO Ftaleksony (1970) 143-50
From: Ref. Zh., Khim. 1971, Abstr. No. 6G11
DT Journal
LA Russian
AB Complexing of Hg²⁺ with Thymolphthalexon S [disodium salt of 3,3'-bis-[di-(carboxymethyl)]aminomethylthymol-sulfophthalein] (I) (a component of Methylthymol Blue) was studied. The color reaction of Hg²⁺ with I occurred at pH 3.7-6.5 (optimally at pH 6.0-6.5). The absorption maximum of the complex was at 610 nm (the molar absorptivity was 2.7 + 1010). The complex had a 2:1 Hg-I ratio, and the formation constant was 2.54 + 1010.
IT 36490-83-2
RL: PRP (Properties); FORM (Formation, nonpreparative)
(formation consts. of)
RN 36490-83-2 CAPLUS
CN Mercurate(4-), [μ-[bis[3-[[bis(carboxymethyl)amino]methyl]-4-hydroxy-2-methyl-5-(1-methylethyl)phenyl](2-sulfophenyl)sulfoniumato(9-)]]]dihydroxydi-, tetrahydrogen (9CI) (CA INDEX NAME)



● 4 H⁺

L3 ANSWER 13 OF 13 CAPLUS COPYRIGHT 2005 ACS on STN
 AN 1972:85504 CAPLUS

DN 76:85504

TI Electrochemistry of organic sulfur compounds. III. Novel anodic synthesis of a sulfonium salt from diphenyl sulfide

AU Uneyama, Kenji; Torii, Sigeru

CS Sch. Eng., Okayama Univ., Okayama, Japan

SO Journal of Organic Chemistry (1972), 37(3), 367-9

CODEN: JOCEAH; ISSN: 0022-3263

DT Journal

LA English

AB Ph₂S, dissolved in MeCN containing LiClO₄, was electrolyzed at 30° to give diphenyl [p-(phenylthio)phenyl] sulfonium (I), Ph₂SO, and 1,4-bis(phenylthio)benzene. Sulfonium salt I predominated in the absence of water, while Ph₂SO increased as the concentration of H₂O was raised.

IT 32958-91-1P

RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of)

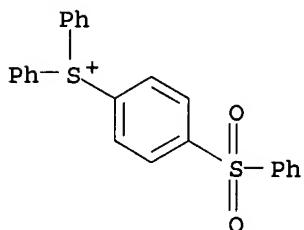
RN 32958-91-1 CAPLUS

CN Sulfonium, diphenyl[4-(phenylsulfonyl)phenyl]-, perchlorate (9CI) (CA INDEX NAME)

CM 1

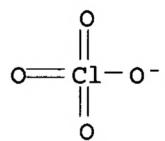
CRN 47572-95-2

CMF C24 H19 O2 S2



CM 2

CRN 14797-73-0
CMF Cl O4



=>